

Docket No.: 20269/1201776-US2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Jay D. KRANZLER et al.

Application No.: 10/623,431

Art Unit: 1614

Filed: July 18, 2003

Examiner: Rebecca COOK

For: METHODS OF TREATING FIBROMYALGIA
SYNDROME, CHRONIC FATIGUE
SYNDROME AND PAIN

DECLARATION OF DR. K. RANGA RAMA KRISHNAN UNDER 37 C.F.R. § 1.132

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, K. RANGA RAMA KRISHNAN, do hereby declare and state the following:

1. I, K. Ranga Rama Krishnan, am a citizen of the United States, and I am more than twenty-one years of age.
2. I make this declaration in support of this application ("the '431 application").
3. I received a Bachelor's degree in Medicine and Surgery from Madras Medical College at the University of Madras in 1978. I was a Psychiatry Resident at Duke University Medical Center from 1981-83, and a Fellow in Neurobiology at Duke University Medical Center from 1982-84.

Application Serial No. 10/623,431

Attorney Docket No. 20269/1201776-US2

4. I presently hold the position of Chairman of Psychiatry at Duke University Medical Center, Durham, North Carolina and have held this position for seven years. My present positions at Duke also include Professor of Psychiatry and Director, Affective Disorders Unit. My prior positions at Duke include Head, Division of Biological Psychiatry; Associate Professor of Psychiatry; and Clinical Associate Physician.

5. In addition to treating psychiatric patients, I have been involved in research in the field of psychopharmacology for twenty years. I have published more than 275 articles relating to psychopharmacology in peer reviewed journals.

4. My qualifications as a scientist, and in particular in the field of psychopharmacology, are set forth in more detail in my curriculum vitae, which is attached as Exhibit A.

5. I have read and am familiar with the specification of the '431 application, the Office Action mailed March 18, 2005, the Response to Office Action filed June 10, 2005, the Office Action mailed August 19, 2005, and the published international patent application WO 00/32178 ("the '178 application").

6. It is my understanding that the Examiner believes that a dual serotonin norepinephrine reuptake inhibitor compound (SNRI) must necessarily inhibit the reuptake of dopamine because sibutramine can be used to treat the same conditions (i.e., the "pain of CFS and FMS") as a SNRI (Office Action mailed August 19, 2005, page 2).

7. It is my understanding that the Examiner based her finding that sibutramine can be used to treat pain of CFS and FMS on the disclosure of the '178 application (see Office Action mailed August 19, 2005, page 2).

8. Sibutramine is a triple reuptake inhibitor, which inhibits the reuptake of dopamine, serotonin and norepinephrine. See, for example, the '178 application at page 9, lines 29-31.

9. The '431 application defines SNRIs as a "well-recognized class of anti-depressant compounds that selectively inhibit reuptake of both serotonin and norepinephrine" ('431 application, page 4, lines 25-27).

10. The '431 application provides examples of common SNRI compounds including venlafaxine, duloxetine and milnacipran ('431 application, page 4, lines 27-28).

11. The term SNRI is well-known and understood to medical personnel including, for example, medical doctors and researchers in the pharmaceutical arts as referring to a compound that selectively inhibits the reuptake of serotonin and norepinephrine.

12. It is well known in the field of psychiatric medicine that a SNRI compound is distinct from a triple reuptake inhibitor compound such as sibutramine because a SNRI compound does not inhibit the reuptake of dopamine. This has been well known to me and to the psychiatrists in my department at Duke for more than 20 years.

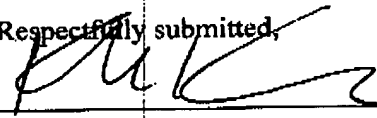
13. There are also primarily norepinephrine reuptake inhibitors that do not inhibit dopamine reuptake. The transporters for dopamine and norepinephrine are distinct. This has been well known to me and to the psychiatrists in my department at Duke for more than 20 years.

14. I further declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true. I further declare that these statements are made with the knowledge that the willful false statements and the like

so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States code, and that such willful false statements may jeopardize the validity of the instant application or of any patent issued thereupon.

11/15/05
DATE

Respectfully submitted,


K. Ranga Rama Krishnan, MBBS

Curriculum Vitae

Personal Information

Name:	K. Ranga Rama Krishnan	Social security number:	240-35-0391
Home Address:	104 Huntington Drive, Chapel Hill NC 27514		
Work Address:	Box 3950, Duke Medical Center, Durham, NC 27710		
Work Phone:	(919) 684-5616	Fax:	(919) 681-5489
Date & Place of Birth:	April 22, 1956	Madras, India	
Marital Status:	Married		

Education

High School: Madras Christian College School, 1972
College: Loyola College, University of Madras, 1973
Graduate: Madras Medical College,
University of Madras, 1978, Bachelor of Medicine and Surgery
MBBS, 1978

Employment History

Chairman of Psychiatry, July 1998 to present
Professor of Psychiatry, June 1995 to present.
Head, Division of Biological Psychiatry, 1992 to 2000.
Director, Affective Disorders Program, 1992 to present.
Associate Professor of Psychiatry, 1990 to 1995
Medical Director, Affective Disorders Unit, 1989-1992
Assistant Professor of Psychiatry, 1984-1989.
Clinical Associate Physician, Clinical Research training on Clinical Research Unit, 1985-1987.
Fellow in Neurobiology, Duke University Medical Center, 1982-1984.
PG4Y Resident, Department of Psychiatry, Duke University Medical Center. 1983-1984
Chief Resident in Psychiatry, Duke-Umstead Program, 1982-1983.
Residency: Duke University - John Umstead Program, 1981-1983.
Senior House Officer, Acting Registrar: Department of Emergency Medicine, Institution: Queen Elizabeth Hospital, University of West Indies, Barbados, West Indies, 1980-1981.
Rotating Internship: Institute of Obstetrics and Gynecology; Government General Hospital, Department of Internal Medicine, Department of Surgery; Institute of Child Health; Department of Community and Preventive Medicine. Madras Medical College, 1979-80.

Certification/Licensure

Tamilnadu Medical Council, India	1979
Medical License, Barbados, West Indies	1980
ECFMG Certification	1980
Texas Board of Medical Examiners (FLEX)	1981
North Carolina Board of Medical Examiners	1983 (26679)
Georgia Board of Medical Examiners	1987
National Board of Medical Examiners, Diplomate	1996

Specialty certification and dates:

Psychiatry, 1986

Certified in Geriatric Psychiatry, American Board of Psychiatry and Neurology, 1991.

Controlled Substances Registration Certification- Practitioner 1996

Awards

Laughlin Award, American College of Psychiatry, 1984

Collegium Internationale Neuro-Psychopharmacologicum Rafaelsen Fellowship Award, 1988.

Walker P. Inman Memorial Fund Grant for a study of extrapituitary regulation of cortisol, 1984.

Clinical Associate Physician Award, General Clinical Research Center Program, 1985-1987.

Dorfman Award, Best Paper in Psychosomatics, 1990.

Listed in Marquis' "Who's Who in Science and Engineering, 1996.

NARSAD Distinguished Investigator Award for Genetic Imaging Study in Bipolar Disorder granted by National Alliance for Research on Schizophrenia and Depression (NARSAD) 1996-98.

Center for the Study of Aging & Human Development, Senior Fellow, 1999-

Honored Teacher Award, Department of Psychiatry & Behavioral Sciences, Duke University Medical Center, 2001.

Present Appointments:

1998 - date Chairman, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, North Carolina.

1995 - date Professor, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, North Carolina.

1992 - date Head, Division of Biological Psychiatry, Duke University Medical Center, Durham, North Carolina

1992 - date Director, Affective Disorders Program, Duke University Medical Center, Durham, North Carolina

Previous Appointments:

Associate Professor of Psychiatry, 1990 to 1995

Medical Director, Affective Disorders Unit, 1989-1992

Assistant Professor of Psychiatry, 1984-1989.

Clinical Associate Physician, Clinical Research training on Clinical Research Unit, 1985-1987.

Fellow in Neurobiology, Duke University Medical Center, 1982-1984.

PG4Y Resident, Department of Psychiatry, Duke University Medical Center. 1983-1984

Chief Resident in Psychiatry, Duke-Umstead Program, 1982-1983.

Residency: Duke University - John Umstead Program, 1981-1983.

Senior House Officer, Acting Registrar: Department of Emergency Medicine, Institution: Queen Elizabeth Hospital, University of West Indies, Barbados, West Indies, 1980-1981.

Rotating Internship: Institute of Obstetrics and Gynecology; Government General Hospital, Department of Internal Medicine, Department of Surgery; Institute of Child Health; Department of Community and Preventive Medicine. Madras Medical College, 1979-80.

Professional Societies:

American Psychiatric Association

International Association for the Study of Pain

Society of Biological Psychiatry

American Association for the Advancement of Science

The New York Academy of Sciences

International Society of Psychoneuroendocrinology

The American Geriatric Society

Collegium Internationale Neuropsychopharmacologicum (CINP)

American College of Neuropsychopharmacology (ACNP)

The American College of Forensic Examiners, Psychiatry Division, 1996.

Professional Service:

Editorial Board Member, Behavioral Medicine
Editorial Board Member, Psychiatry Research: Neuroimaging
Editorial Board Member, Depression
Editorial Board Member, Biological Psychiatry
Editorial Board Member, Psychopharmacology Bulletin
Editorial Board Member, Neuropsychopharmacology

Reviewer for the following journals:

Psychosomatic Medicine
Archives of General Psychiatry
Pain
Psychoneuroendocrinology
Psychiatry Research
International Journal of Geriatric Psychiatry
American Heart Journal
American Journal of Psychiatry

Consultant/Review Panels:

U.S. Veterans Administration, Review Board in Endocrinology (Ad Hoc), 1988.

Member, Subcommittee DSM IV Panel for Impulse Control Disorders, 1988 to 1993.

Program Committee, Society of Biological Psychiatry Meeting, Montreal, 1988.

U.S. Veterans Administration, Review Board in Psychiatry (Ad Hoc), 1988-89.

N.I.A.A.A. (Ad Hoc) Grant Review and Site Visitor, Special Review Committee, 1991, 1993.

U.S. Veterans Administration, Review Board in Career Development Program, 1992.

N.I.M.H. (Ad Hoc) Grant Review and Site Visitor, Special Review Committee, 1986, 1990, 1994; 1995, 1996.

Consultant, Longitudinal Bipolarity in 6-17 year olds: Genetics, MRI, ERP (Dr. Barbara Geller and Dr. John Rohrbaugh, Co-PI) Washington University School of Medicine, St. Louis, 1992 to 1996.

Consultant, Brain imaging in schizophrenia (MIND) (Dr. Keshevan PI) University of Pittsburgh Medical Center, 1996-1998.

Consultant and member Steering Committee, Enhancing Recovery in Coronary Heart Disease (ENRICHED). National Heart, Lung, and Blood Institute National Institutes of Health, Department of Health & Human Services, 1995 to present.

Consultant and member Advisory Panel, Mental Health Clinical Research Center for the Study of Schizophrenia, (Dr. John Kane, PI) Albert Einstein College of Medicine, New York, 1995 to present.

Consultant/Review Panels: cont'd:

Consultant, Clinical Mental Health Academic Award in Geriatric Psychiatry: Brain Morphometry in Geriatric Depression, Department of Psychiatry, Long Island Jewish Medical Center (Dr. Blaine Greenwald, PI), New York, 1996-1997.

Consultant, NIH Late Life Depression (Dr. Harold Sackheim, PI) New York State Psychiatry Institute, New York, 1995-1996.

Member, TDA-II Psychopharmacology Review Committee National Institute of Mental Health, 1990 to 1992.

Member, Biological Psychopathology Review Committee National Institute of Mental Health, 1992 to 1993.

Member, Psychobiological, Biological, and Neurosciences Subcommittee, Mental Health Acquired Immunodeficiency Syndrome Research Review Committee, National Institute of Mental Health, 1993 through June 1995.

Member, National Board of Medical Examiners USMLE Step 1 Test Material Development Committee for Behavioral Sciences and the National Board's Behavioral Sciences Test Committee, 1994-1997.

Member, National Institute of Mental Health, Clinical Neuroscience & Biological Psychopathology Review Committee, 1995-1998

Member, Special Emphasis Panel, Clinical Neuroscience Review Committee, National Institutes of Health, 1996.

Duke University Medical Center:

Chairman, Private Diagnostic Clinic Advisory Board Committee, Dept. of Psychiatry & Behavioral Sciences, 1996 to present.

Member, Search Committee for Director of the Brain Imaging and Analysis Center, 1996.

Member, Provost Planning Group on Cognitive Neuroscience, 1996.

Member, Psychiatry Steering Research Committee, 1992 to present.

Member, Psychiatry Research Space Committee, 1992 to 1994.

Consultant to Pain Program, 1984 to present.

Grants Received:

Federal Grants:

Co-Investigator, NIMH Grant #5R01 MA 39593-04, "Neuroendocrine Regulation in Depression", Bernard J. Carroll, M.D., Ph.D., 1987-1991.

Co-Investigator, NIMH Grant #P50 MH40159-05, "CRC/PE For the Study of Depression", Dan G. Blazer, M.D., Ph.D., (1984-1993); Bernard J. Carroll, M.B. Ph.D., July 1994 through August 1999.

Principal Investigator, NIMH Grant, "Stress, Cortisol, Cognition, Brain Atrophy and Depression", MH447166-01, 1989-1994. 1994 - 1998.

Federal Grants: cont'd.

Co-Principal Investigator, NIMH Grant, "Victims of violence: family risk for PTSD following rape." 1991 to 1994.

Co-Principal Investigator, NIMH Grant #5R01 MH049679, "Exercise training and depression in older adults."
P.I. Jim Blumenthal, Ph.D. 1994 to 1998.

Principal Investigator, NIMH Grant #R01-MH051191-08, "Depression in elderly cardiac patients." 1994 to1998 and 1998 to 2003

Principal Investigator, NIH National Institute on Aging Grant #R01-AG011913-03, "Alzheimer's disease: Antemortem markers." 1994 to 1998.

Co-Principal Investigator, NIMH Grant #SP30 MH40159, "Clinical Research Center for the study of depression in the elderly." 1994 to 1999.

Principal Investigator, NIMH Grant #5P30 MH40159, "Clinical Research Center for the study of depression in the elderly." 1997 to 1999.

Principal Investigator, NIMH Grant #R01-MH050570-05, "Depression in late life." 1996 to 2002.

Principal Investigator, NIMH Grant #R01-MH057027-05, "Bipolar Disorder in late life." 1998 to 2003.

Co-Investigator, NIMH Grant UNC#5-32857, "Neuroimaging in HIV infection" 1997 to 2002.

Co-Principal Investigator, National Heart, Lung, and Blood Institute National Institutes of Health, Department of Health & Human Services Grant, Enhancing Recovery in Coronary Heart Disease (ENRICHD)., 1995 to present.

Principal Investigator, NIMH Grant #P50-MH060451-03, "Conte Centers for the Neuroscience of Depression." 2001 to 2006.

Principal Investigator, NIMH Grant #R01-MH063211-02, "Safety and Efficacy of Sertraline for Depression CHF. 2003 to 2008.

Co-Principal Investigator, NIH Grant #M01-RR003-0 "General Clinical Research Center." 2001 to 2003.

Principal Investigator, NIMH Grant #R01-MH63211-01, "Inflammatory Biomarkers in Depressed CHF Patients. 2003-2008.

Principal Investigator, NIMH Grant #P30-MH040159-14, Study of Depression.

Co-Investigator, NIMH Grant #R01-MH054846-03 Geriatric Depression--Risk Factors for Adverse Outcome.

Principal Investigator, NIMH Grant #R01-MH044716-06. Cortisol Cognition Brain Atrophy and Depression.

Co-Investigator, Safety Study Maprotiline in Depression, Ciba-Geigy, 1984.

Co-Investigator, Open Label Trial of Gepirone in Depression. Bristol-Myers, 1986.

Co-Investigator, Double Blind Trial of Venalfexine in Depression, Wyeth-Ayerst, 1988.

Co-Investigator, Study of DUP996 in Dementia (Alzheimer's Type), DuPont deNemours, 1989.

Co-Investigator, Trial of Xanax in Panic Disorder, The Upjohn Company, 1985-1987.

Co-Investigator, Safety Study Wellbutrin, Burroughs-Wellcome, 1987-1988.

Industry Grants cont'd.:

Co-Investigator, Double Blind Trial of Venlafexine in Depression, Wyeth-Ayerst, 1988.

Co-Investigator, Double Blind Trial of Deracyn in Panic Disorder, The Upjohn Company, 1988 - 1992.

Co-Investigator, Double Blind Trial of Anafranil in Obsessive-Compulsive Disorder, Ciba-Geigy, 1986 - 1987.

Principal Investigator, Double Blind Trial of Deracyn in Depression, The Upjohn Company, 1989-1992.

Principal Investigator, Nefazodone in Geriatric depression. Bristol Myers Company 1990 -1994.

Principal Investigator, Double-blind parallel comparison of Sertraline and Fluoxetine in depressed geriatric outpatients. Pfizer, 1992-1993.

Principal Investigator, Sertraline in treatment of depression in inpatients. Pfizer, 1991-1993.

Principal Investigator DUP996 in Dementia (Alzheimer's Type) Phase III, Dupont de Nemours, 1991 - 1994.

Co-Investigator, Prozac in geriatric depression. Eli Lilly, 1991-1992.

Principal Investigator, "Prospective, randomized, double-blind, placebo-controlled multicenter, parallel-groups comparison of the safety and efficacy of Abecarnil vs. Lorazepam in elderly outpatients with anxiety symptoms." Sandoz, 1991 - 1993.

Principal Investigator, "The safety and efficacy of Depakote in the prevention of mania in patients with Bipolar Disorder." Abbott Laboratories, 1993 - 1995.

Principal Investigator, "Clinical evaluation of efficacy and safety of Sabeluzole in the treatment of Alzheimer's disease." Janssen Pharmaceutical & Research Foundation, 1993 - 1996.

Principal Investigator, "A controlled study of Ondansetron in the treatment of primary degenerative dementia of the Alzheimer's type." GLAXO, Inc., May 1993 - 1993.

Principal Investigator, "A week multicenter, randomized, double-blind, placebo-controlled evaluation of the safety and efficacy of E2020 in patients with Alzheimer's disease." Eisai America, Inc., 1993 - present.

Co-Investigator, "Double blind comparison of 3-doses of Tandospirone - GITS in placebo in outpatients with major depression." Pfizer July 1993 - 1994.

Principal Investigator, "The safety and efficacy of Wellbutrin Sustained Release and Sertraline in depressed outpatients." Burroughs Wellcome July 1994 - 1995.

Principal Investigator, "The study of the safety and effectiveness of ENA 713 in the treatment of Alzheimer's disease. A double-blind, placebo-controlled study." Sandoz March 1995 - 1997.

Principal Investigator, "A 52-week, randomized, double-blind, placebo-controlled, parallel-group, multicenter study of Milameline (CI-979/RU 35926) in patients with probable Alzheimer's disease with long-term open-label extension." Parke-Davis Pharmaceutical Research July 1996 - July 1997.

Principal Investigator, "Sertraline in management of patients with chest pain despite normal coronary angiograms." Pfizer U.S. Pharmaceuticals July 1996 - July 1997.

Principal Investigator, "A multicenter, parallel-group, double-blind, placebo-controlled study of the efficacy, tolerability and safety of Sertraline in the treatment of the behavioral manifestations of Alzheimer's disease in outpatients. Pfizer U.S. Pharmaceuticals August 1996 - August 1997.

Investigator-Initiated IND:

1. Ovine CRF Corticotrophin-Releasing Factor
2. RU-486 in Depression

Publications:

1. Selvaraj AM, Mallika K, Krishnan KRR: Spontaneous Aerogram of the Biliary Tree. Antiseptic (India), 1980.
2. Krishnan KRR, Maltbie AA, Davidson JRT: Abnormal Cortisol Suppression in Bipolar Patients with Simultaneous Manic and Depressive Symptoms. Am J Psychiatry 140:203-205, 1983.
3. Varia IM, Krishnan KRR, Davidson JRT: Deep Vein Thrombosis as a Complication of Antipsychotic Therapy. Psychosomatics 24:1097-1098, 1983.
4. Krishnan KRR, Volow MR, Cavenar JO, Jr., Miller PP: Dreams of Flying in Narcoleptic Patients. Psychosomatics 25:423-425, 1984.
5. Krishnan KRR, Volow MR, Miller PP: Narcolepsy: Preliminary Retrospective Study of Psychiatric and Psychosocial Aspects. Am J Psychiatry 141:428-431, 1984.
6. Krishnan KRR, France RD, Ellinwood EH, Jr: Tricyclic Induced Akathisia in Patients Taking Conjugated Estrogens. Am J Psychiatry 141:696-697, 1984.
7. Krishnan KRR, Davidson JRT, Miller RD: MAO Inhibitor Therapy in Trichotillomania Associated with Depression: A Case Report. J Clin Psychiatry 45:310-311, 1984.
8. Krishnan KRR, Swartz M, Larson MR, Santoliquido G: Funeral Mania in Recurrent Bipolar Affective Disorders: Reports of Three Cases. J Clin Psychiatry 45:310-311, 1984.
9. Carrington CD, Ellinwood EH, Jr., Krishnan KRR: Effects of Single and Repeated Alcohol Withdrawal on Kindling. Biol Psychiatry 19:525-537, 1984.
10. Krishnan KRR, Davidson JRT, Rayasam K: Dexamethasone Suppression Test in Borderline Personality Disorder. Biol Psychiatry 19:1149-1153, 1984.
11. Davidson JRT, Lipper S, Zung WWK, Strickland R, Krishnan KRR, Mahorney S: DST as an External Validation of Different Diagnostic Criteria. Am J Psychiatry 141:1221-1223, 1984.
12. France RD, Krishnan KRR, Houpt JL, Maltbie AA: Differentiation of Depression from Chronic Pain Using the DST and DSMIII. Am J Psychiatry 141:1577-1579, 1984.
13. Krishnan KRR, Davidson JRT, Guajardo C: Trichotillomania: A Review. Comprehensive Psychiatry 26:123-128, 1985.
14. Krishnan KRR, France RD and Houpt JL: Chronic low back pain and depression. Psychosomatics 26:299-304, 1985.
15. Krishnan KRR, France RD, Pelton S, McCann UD, Manepalli AN and Davidson JRT: What Does the DST Identify? Biol Psychiatry 20:957-964, 1985.
16. Krishnan KRR, France RD, Pelton S, McCann UD, Davidson JRT, and Urban BJ: Chronic Pain and Depression. Part I - Classification of depression in chronic low back pain patients. Pain 22:279-287, 1985.
17. Krishnan KRR, France RD, Pelton S, McCann UD, Davidson J and Urban BJ: Chronic Pain and Depression. Part II - Symptoms of anxiety in chronic low back pain patients and their relationship to subtypes of depression. Pain 22:289-294, 1985.

35. Goldstein D, Gockerman J, Krishnan R, Ritchie J, Tsy CY, Hood LE, Ellinwood EHJr, Laszlo J: Effects of gamma interferon on the endocrine system: results from a phase I study. *Cancer Res* 47:6397-6401, 1987.
36. Krishnan KRR, Manepalli AN, Ritchie JC, Rayasam K, Melville ML, Rivier J, Vale W, Thorner MO, Nemeroff CB: Growth Hormone Response to GHRF in depression. *Peptides* 9:113-116, Supplement 1, 1987.
37. France RD, Urban B, Krishnan KRR, Bissette G, Banki CM, Nemeroff CB: CSF corticotropin-releasing factor-like immunoactivity in chronic pain patients with and without major depression. *Biol Psychiatry* 23:86-88, 1988.
38. Krishnan KRR, Manepalli AN, Ritchie JC, Rayasam K, Melville ML, Rivier J, Vale W, Thorner MO, Carroll BJ, Nemeroff CB: GHRF stimulation test in depression. *Am J Psychiatry* 145:90-92, 1988.
39. Krishnan KRR, Goli V, Ellinwood EH, France RD, Blazer DG, Nemeroff CB: Leukoencephalopathy in patients diagnosed as major depression. *Biol Psychiatry* 23:519-522, 1988.
40. France RD, Skott A, Krishnan KRR, Urban B, Houpt, J: Subtypes of depression in patients with chronic pain. *Southern Medical Journal* 81:485-488, 1988.
41. Krishnan KRR, Ritchie JC, Manepalli AN, Nemeroff CB, Carroll BJ: Adrenocortical sensitivity to ACTH in man. *Biol Psychiatry* 23:86-88, 1988.
42. Naylor MR, Krishnan KRR, Manepalli AN, Ritchie JC, Wilson WH, Carroll BJ: Circadian rhythm of adrenergic regulation of ACTH and cortisol secretion in man. *J Clin Endocrin & Metab* 67:404-406, 1988.
43. Heyman A, Schmechel D, Wilkinson W, Rogers H, Krishnan R, Holloway D, Schultz K, Gwyther L, Peoples R, Utley C and Haynes C: Failure of long term high dose lecithin to retard progression of early onset Alzheimer's disease. *J Neural Transmission* 24:279-286, 1988.
44. Davidson JRT, Woodbury M, Pelton S, Krishnan R: A study of depressive typologies using grade of membership analysis. *Psychological Medicine* 18:179-189, 1988.
45. Nemeroff CB, Knight DL, Krishnan KRR, Slotkin TA, Bissette G, Melville ML, Blazer D: Marked reduction in the number of platelet 3H-imipramine binding sites in geriatric depression. *Arch Gen Psychiatry* 45:919-923, 1988.
46. Krishnan KRR, Heyman A, Ritchie JC, Utley CM, Dawson DB, Rogers H: Depression in Early-Onset Alzheimer's Disease: Clinical and Neuroendocrine Correlates. *Biol Psychiatry* 24:937-940.
47. Heinz R, Rayasam K, Krishnan KRR, Wingfield M, Irigaray P, Ellinwood EHJr: MRI scans in patients with tardive dyskinesia. *Biol Psychiatry* 24:852-857, 1988.
48. Slotkin TA, Whitmore WL, Barnes GA, Krishnan KRR, Blazer D, Knight DL, Nemeroff CB: Reduced inhibitory effect of imipramine on radio-labeled serotonin uptake into platelets in geriatric depression. *Biol Psychiatry* 25:687-691, 1989.
49. Krishnan KRR, France RD: Antidepressants in the Management of Chronic Pain Syndromes. *Am Family Physician* 30:4:233-237, 1989.
50. Figiel GS, Krishnan KRR, Nemeroff CB, Breitner JC: Radiologic correlates of antidepressant induced delirium. *J Neuropsychiatry Clin Neurosci* 1:2:188-190, 1989.

51. Rao VP, Krishnan KRR, Goli V, Saunders WB, Ellinwood EH Jr, Blazer DG, Nemeroff CB 1989. Neuroanatomical changes and hypothalamo-pituitary-adrenal axis abnormalities. *Biol Psychiatry* 26:729-732, 1989.
52. Nemeroff CB, Krishnan KRR, Belkin B, Ritchie JC, Clark C, Vale WW, Rivier JE, Thorner MO 1989. The growth hormone response to growth hormone-releasing factor in Alzheimer's Disease. *Neuroendocrinology* 50: 663-667, 1989.
53. Linzer M, Felder A, Hackel A, Perry AJ, Varia I, Melville ML, Krishnan KRR: Psychiatric etiologies of syncope and presyncope. *Psychosomatics* 31: 181-188, 1990.
54. Krystal A, Krishnan KRR, Ratier M, Poland R, Ritchie JC, Dunnick R, Hanada K, Nemeroff CB. The differential diagnosis and pathophysiology of Cushing's Syndrome and Primary Affective Disorder: 2 illustrative case reports. *J Neuropsychiatry Clin Neuroscience* 2:34-43, 1990.
55. Nemeroff CB, Krishnan KRR, Blazer DG, Knight D, Benjamin D and Meyerson LR. Elevated Plasma Concentration of Alpha 1-Acid Glycoprotein. A putative endogenous inhibitor of the 3H imipramine binding site in depressed patients. *Arch Gen Psychiatry* 47(4): 337-340, 1990.
56. Ritchie JC, Belkin BM, Krishnan KRR, Nemeroff CB, Carroll BJ: Plasma dexamethasone concentrations and the dexamethasone suppression test. *Biol Psychiatry* 27:159-173, 1990.
57. McDonald W, Krishnan KRR. Pharmacologic management of dementia. *Am Family Physician* 42(1): 123-132, 1990.
58. Krishnan KRR, Ritchie JC, Saunders WB, Nemeroff CB, Carroll BJ: Adrenocortical sensitivity to low dose ACTH administration in depressed patients. *Biol Psychiatry* 27:930-933, 1990.
59. Lurie SN, Doraiswamy PM, Husain MM, Figiel GS, Ellinwood EH, Boyko OB, Krishnan KRR. *in vivo* assessment of pituitary gland volume with MRI: The effect of age. *J Clin Endocrin & Metab* 71(2): 505-508, 1990.
60. McDonald W, Krishnan KRR. Pharmacologic management of the symptoms of dementia. *Am Family Physician* 42(1): 123-132, 1990.
61. Figiel GS, Krishnan KRR, Doraiswamy PM. Subcortical structural changes in ECT induced delirium. *J Geriatric Psychiatry & Neurology* 3: 172-176, 1990.
62. Doraiswamy PM, Krishnan KRR, Figiel GS, Husain MM, Boyko OB, Rockwell WJK and Ellinwood EH Jr. A brain magnetic resonance imaging study of pituitary gland morphology in anorexia nervosa and bulimia. *Biological Psychiatry* 28(2): 110-116, 1990.
63. Lammers C, Doraiswamy PM, Husain MM, Figiel GS, Boyko OB, Ellinwood EH, Nemeroff CB, and Krishnan KRR. MRI of the corpus callosum and septum pellucidum in depression. *Biol Psychiatry* 29: 295-296, 1990.
64. Krishnan KRR: Brain imaging and psychiatric disorders. *Current Opinion in Psychiatry* 3:79-82, 1990.
65. Krishnan KRR, McDonald WM, Husain MM, Doraiswamy PM, Figiel GS, Boyko OB, Ellinwood EH, Nemeroff CB. *in vivo* stereological assessment of caudate volume in man: Effect of normal aging. *Life Sciences* 47(15): 1325-1329, 1990.
66. Krishnan KRR, Ritchie JC, Saunders W, Wilson W, Nemeroff CB and Carroll BJ. Nocturnal and early morning secretion of ACTH and cortisol in humans. *Biol Psychiatry* 28, 47-57, 1990.

67. Breitner JCS, Husain MM, Figiel GS, Krishnan KRR, Boyko OB. Cerebral white matter disease in late-onset paranoid psychosis. *Biol Psychiatry* 28(3): 266-274, 1990 .
68. Nemeroff CB, Bissette G, Owens MJ, Vargas MA, Pihoker C, Krishnan KRR, Cain ST and Banki CM. Corticotropin-releasing factor: preclinical and clinical studies. *Clin Neuropharmacol Suppl* 2(13): 595-596, 1990.
69. McDonald WM, Husain M, Doraiswamy PM, Figiel GS, Boyko O, Krishnan KRR. A magnetic resonance image study of age-related changes in human putamen nuclei. *NeuroReport* 2(1): 57-60, 1991.
70. Na CA, Doraiswamy PM, HK. Lee, Krishnan KRR. MRI in biological psychiatry *Prog in Neuro-Psychopharm & Biol Psychiat* 15:581, 1991.
71. Krishnan KRR, Ritchie JC, Manepalli AN, Saunders WB, Li SW, Venkataraman S, Nemeroff CB, Carroll BJ. Fast feedback regulation of ACTH by cortisol. *Prog Neuro-Psychopharm & Biol Psychiat* 15(4): 523-529, 1991.
72. Figiel GS, Botteron K, Zorumski CF, Jarvis MR, Doraiswamy M, Krishnan KRR. the treatment of late age onset psychoses with electroconvulsive therapy. *International J Geriatric Psychiatry* 4: 44-57, 1991.
73. McDonald WM, Krishnan KRR, Doraiswamy PM, Figiel GS, Husain MM, Boyko OB, Heyman A. Magnetic resonance findings in patients with early-onset Alzheimer's disease. *Biol Psychiatry* 29(8): 799-810, 1991.
74. Krishnan KRR, Doraiswamy PM, Lurie SN, Figiel GS, Husain MM, Boyko OB, Ellinwood EH Jr, Nemeroff CB. Pituitary size in depression. *J Clin Endocrin & Metab* 72: 256-259, 1991.
75. Husain MM, Doraiswamy PM, Knight DL, Boyko OB, Krishnan KRR, Nemeroff CB. Platelet [3-H]-imipramine binding and leukoencephalopathy in geriatric depression. *Biol Psychiatry* 29(7): 655-670, 1991.
76. Figiel GS, Krishnan KRR, Roa VP, Doraiswamy PM, Boyko OB, Nemeroff CB. Subcortical hyperintensities on brain MRI: A comparison of normal and bipolar subjects. *J Neuropsych Clin Neurosci* 3:18-22, 1991.
77. Krishnan, KRR. Organic bases of depression in the elderly. *Annual Review Medicine* 42: 261-66, 1991.
78. Figiel GS, Krishnan KRR, Doraiswamy PM, Rao VP, Nemeroff CB, Boyko OB. Subcortical hyperintensities on brain magnetic resonance imaging: A comparison between late age onset and early onset elderly depressed subjects. *Neurobiol of Aging* 12(3): 245-247, 1991.
79. Churchill CM, Priolo CV, Nemeroff CB, Krishnan KRR and Breitner JCS. Occult subcortical magnetic resonance findings in elderly depressives. *International J Geriatric Psychiatry* 6: 213-216, 1991.
80. Gupta SK, Krishnan KRR, Ellinwood EH, Ritchie JC and Nemeroff CB. Pharmacokinetics of human growth hormone secretion in humans induced by growth hormone releasing hormone. *Life Sciences* 47: 1887-1893, 1991.
81. Escalona PR, McDonald WM, Doraiswamy PM, Boyko OB, Husain MM, Figiel GS, Laskowitz D, Ellinwood EH Jr, Krishnan KRR. *in vivo* stereological assessment of human cerebellar volume: Effects of gender and age. *Amer J Neuroradiol* 12(5): 927-929, 1991.

82. Goli V, Krishnan KRR and Ellinwood EH Jr. Obsessive compulsive disorder. *Canadian Family Physician*. 37:1449-1455, 1991.
83. Doraiswamy PM, Krishnan KRR, Husain MM, Boyko, OB, Figiel GS, Palesi VJ, Shah SA, McDonald WM, Rockwell WJK, Ellinwood EH Jr. Pituitary abnormalities in eating disorders: Further evidence from MRI studies. *Prog Neuro-Psychopharmacol & Biol Psychiatr* 15(3): 351-356, 1991.
84. Krishnan KRR, Manepalli AN, Ritchie JC, Venkataraman S, Wilson WH, Carroll BJ. Role of serotonin in HPA axis escape from dexamethasone suppression. *Prog Neuro-Psychopharmacol & Biol Psychiatr* 15: 637-642, 1991.
85. Doraiswamy PM, Figiel GS, Husain MM, McDonald WM, Shah SA, Boyko OB, Ellinwood EH Jr, Krishnan KRR. Aging of the human corpus callosum: Magnetic resonance imaging in normal volunteers. *J Neuropsychiatry & Clin Neurosci* 3(4): 392-397, 1991.
86. Potts NS, Davidson JRT, Krishnan KRR, Doraiswamy MP, Ritchie J. Urinary free cortisol levels in social phobia. *J Clin Psychiatry* 52: 41-42, 1991.
87. Na C, Doraiswamy PM, Lee KH, Krishnan KRR. Magnetic resonance imaging in biological psychiatry. *Prog Neuro-Psychopharmacol & Biol Psychiatr* 15(5): 581-593, 1991.
88. Davidson JRT, Potts NS, Richichi EA, Ford SM, Krishnan KRR, Smith RD, Wilson WIF. The brief social phobia scale. *J Clin Psychiatry*, 11: 48-51, 1991.
89. Figiel GS, Hassen MA, Zorumski CF, Krishnan KRR, Doraiswamy PM, Jarvis MR, Smith, DS. ECT-induced delirium in depressed patients with Parkinson's disease. *J Neuropsychiatry & Clin Neurosci* 3(4): 405-411, 1991.
90. Husain MM, McDonald WM, Doraiswamy PM, Na C, Figiel GS, Escalona PR, Boyko OB, Nemeroff CB, Krishnan KRR. A magnetic resonance imaging study of putamen nuclei in major depression. *Psychiatry Research: Neuroimaging* 40(2): 95-100, 1991.
91. Shah SA, Doraiswamy PM, McDonald WM, Husain MM, Escalona PR, Figiel GS, Boyko OB, Nemeroff CB, Ellinwood Jr., EH, Krishnan KRR. Assessment of posterior fossa structures with midsagittal MRI: The effects of age. *Neurobiology Aging* 12: 371-374, 1991.
92. Figiel GS, Krishnan KRR, Doraiswamy M and Nemeroff CB. Caudate hyper-intensities in elderly depressed patients with neuroleptic-induced Parkinsonism. *J Geriatric Psychiatry & Neurol* 4(2): 86-89, 1991.
93. McDonald WM, Krishnan, KRR, Doraiswamy PM, Blazer DG. Occurrence of subcortical hyperintensities in elderly subjects with mania. *Psychiatry Research: Neuroimaging* 40(4): 211-220, 1991.
94. Krishnan KRR, Doraiswamy PM, Figiel GS, McDonald WM, Husain MM, Shah SA, Na C, Boyko OB, McDonald WM, Nemeroff CB, Ellinwood EH, Jr. Hippocampal abnormalities in depression. *J Neuropsychiatry & Clin Neurosci* 3(4): 387-391, 1991.
95. Potts NS, Krishnan KRR. Long-term use of benzodiazepines: Implications and guidelines. *Canadian Family Physician* 38, 149-153, 1992.
96. Krishnan KRR, McDonald WM, Escalona PR, Doraiswamy PM, Chul Na, Husain MM, Figiel GS, Boyko OB, Ellinwood EH, Nemeroff CB. Magnetic resonance imaging of the caudate nuclei in depression: Preliminary observations. *Arch Gen Psychiatry* 49(7): 553-557, 1992.

97. Krishnan, KRR. Late onset depressive disorder (LODD) and cerebrovascular disease: Is LODD an organic affective disorder? *Depression Briefing* 3: 170-173, 1992.
98. Doraiswamy PM, Chul Na, Husain MM, Figiel GS, McDonald WM, Ellinwood EH Jr, Boyko OB, Krishnan KRR. Morphometric changes of the human midbrain with normal aging: MR and stereologic findings. *AJNR* 13(1): 383-386, 1992.
99. Husain MM, Black KG, Doraiswamy PM, Shah SA, Rockwell WKG, Ellinwood EH, Krishnan KRR. Subcortical brain anatomy in anorexia and bulimia. *Biol Psychiatry* 31(7): 735-738, 1992.
100. McDonald WM, Krishnan KRR. Magnetic resonance in patients with affective illness. *Eur Arch Psychiat & Clinical Neurosci*, 241(5): 283-290, 1992.
101. Krishnan KRR, Reed D, Wilson WH, Saunders WB, Ritchie JC, Nemeroff CB, Carroll BJ. RU486 in depression. *Prog Neuro-Psychopharmacol & Biol Psychiat* 16(6): 913-920, 1992. 101, 1992.
102. Axelson DA, Doraiswamy PM, Boyko OB, Escalona PR, McDonald WM, Ritchie JC, Patterson LJ, Ellinwood EH Jr, Nemeroff CB, Krishnan KRR. *In vivo* assessment of pituitary volume with magnetic resonance imaging and systematic stereology: Relationship to Dexamethasone Suppression Test results in patients. *Psychiatry Research* 44(1): 63-70, 1992.
103. Shah SA, Doraiswamy PM, Husain MM, Krishnan KRR. Posterior fossa abnormalities in major depression: A controlled MRI study. *Acta Psychiatr Scand* 85:474-479, 1992.
104. Krishnan KRR. Neuroanatomical substrates. *Behavior Therapy* 23:571-583, 1992.
105. McDonald WM, Krishnan KRR. Magnetic resonance in patients with affective illness. *Eur Arch Psychiatry & Clin Neurosci* 241: 283-290, 1992.
106. Doraiswamy PM, Potts JM, Axelson DA, Husain MM, Lurie SN, Na C, Escalona PR, McDonald WM, Figiel GS, Ellinwood EH Jr, Boyko OB, Krishnan KRR. MR assessment of normal pituitary gland morphology. *AJNR* 1993.
107. Maddock RJ, Carter CS, Blacker KH, Beitman BD, Krishnan, KRR, Jefferson JW, Lewis CP, Liebowitz MR. Relationship of past depressive episodes to symptom severity & treatment response in panic disorder with agoraphobia. *J Clin Psychiatry* 54(3): 88-95, 1993.
108. Steffens DC, Tupler LA, Krishnan KRR. The neurostructural/neurofunctional basis of depression/mania. *Current Opinion in Psychiatry* 6: 22-26, 1993.
109. Krishnan KRR, Miller MN, Helms MJ, Reed D, Ritchie JC, Nemeroff CB, Carroll BJ. Dose response relationship between plasma ACTH and cortisol after the infusion of ACTH₁₋₂₄. *Eur Arch Psychiatry & Clin Neurosci* 242(4): 240-243, 1993.
110. Axelson DA, Doraiswamy PM, McDonald WM, Boyko OB, Tupler LA, Patterson LJ, Nemeroff CB, Ellinwood EH Jr, Krishnan, KRR. Hypercortisolemia and hippocampal changes in depression. *Psychiatry Research* 47(2): 163-173, 1993.
111. Krishnan KRR. Neuroanatomic substrates of depression in the elderly. *J of Geriatric Psychiatry & Neurology* 6(1): 39-58, 1993.
112. Parashos IA, Oxley SL, Boyko OB, Krishnan KRR. *in vivo* quantitation of basal ganglia and thalamic degenerative changes in two temporal lobectomy patients with affective disorder. *J Neuropsychiatry & Clin Neurosci* 5(3): 337-341, 1993.

113. Krishnan KRR, Rayasam K, Reed D, Smith M, Chapell P, Saunders WB, Ritchie JC, Carroll BJ, Nemeroff CB. The Corticotropin Releasing Factor Stimulation Test in patients with major depression: Relationship to Dexamethasone Suppression Test results. *Depression* 1: 133-136, 1993.
114. Doraiswamy PM, McDonald WM, Patterson L, Husain MM, Figiel GS, Boyko OB, Krishnan KRR. Interuncal distance as a measure of hippocampal atrophy: Normative data on axial MR imaging. *AJNR* 14: 141-143, 1993.
115. Beyer J, Burke M, Meglin D, Fuller A, Krishnan KRR, Nemeroff CB. Organic anxiety disorder: Iatrogenic hyperthyroidism. *Psychosomatics* 34(2): 181-184, 1993.
116. Potts NLS, Davidson JRT, Krishnan KRR. The role of nuclear magnetic resonance imaging in psychiatric research. *J Clin Psychiatry* 54(12): 13-18, 1993.
117. Krishnan KRR. Pituitary and adrenal changes in depression. *Psychiatric Annals* 23(12): 671-675, 1993.
118. Escalona PR, Early B, McDonald WM, Doraiswamy PM, Shah SA, Husain MM, Boyko OB, Figiel GS, Ellinwood EH Jr, Nemeroff CB, Krishnan KRR. Reduction of cerebellar volume in major depression: A controlled MRI study. *Depression* 1(3): 156-158, 1993.
119. Lisanby SH, McDonald WM, Massey EW, Doraiswamy PM, Rozear M, Boyko OB, Krishnan KRR, Nemeroff CB. Diminished subcortical nuclei volumes in Parkinson's disease by MR imaging. *J Neural Transmission* 40: 13-21, 1993.
120. Krishnan KRR, McDonald WM, Tupler LA, Boyko OB. Neuroanatomical substrates of depression in the elderly. *Eur Arch Psychiatry & Clin Neurosci* 243:41-46, 1993.
121. Krishnan KRR, Boyko OB, McDonald WM, Charles HC, MacFall J, Tupler LA, Upchurch. Magnetic resonance morphometry: Image analysis methodology development for affective disorder. *Depression* 1: 159-171, 1993.
122. Early B, Escalona PR, Boyko OB, Doraiswamy PM, Axelson DA, Patterson L, McDonald WM, Krishnan KRR. Interuncal distance measurements in healthy volunteers and in patients with Alzheimer's disease. *AJNR* 14(4): 907-910, 1993.
123. Nemeroff CB, Krishnan KRR, Reed D, Leder R, Beam C and Dunnick NR: Adrenal gland enlargement in major depression: A computed tomographic study. *Arch Gen Psychiatry* 50(10): 834-835, 1993.
124. Davidson JRT, Boyko OB, Charles HC, Krishnan KRR, Potts N, Ford SM, Patterson LA. MRS in Social Phobia: Preliminary findings. *J Clin Psychiatry* 54(12):19-25, 1993.
125. Doraiswamy PM, Reeder KP, Logue PE, Husain MM, Figiel GS, Krishnan KRR, Nemeroff CB. MRI detection of abnormality in the corpus callosum and late-onset depression: Clinical case studies. *Depression* 1: 108-109, 1993.
126. Koenig HG, Cohen HJ, Blazer DG, Krishnan KRR, Sibert TE. Profile of depressive symptoms in younger and older medical inpatients with major depression. *J Am Geriatrics Society* 41(11): 1169-1176, 1993.
127. Davidson JR, Potts N, Richichi E, Krishnan KRR, Ford SM, Smith R, Wilson WH. Treatment of social phobia with clonazepam and placebo. *J Clin Psychopharmacol* 13(6): 423-428, 1993.
128. Krishnan KRR, McDonald WM, Tupler LA. Neuropathology in affective illness. *Am J Psychiatry* 150(10):1568-1569, 1993.

129. Potts NLS, Davidson JRT, Krishnan KRR. The role of nuclear magnetic resonance imaging in psychiatric research. *J Clin Psychiatry* 54:13-18, 1993.
130. Davidson JR, Beitman B, Greist JH, Maddock RJ, Lewis CP, Sheridan AQ, Carter C, Krishnan KRR, Liebowitz MR, Haack DG. Adinazolam sustained-release treatment of panic disorder: a double-blind study. *J Clin Psychopharmacol* 14(4): 255-263, 1994.
131. Doraiswamy PM, Patterson L, Na C, Husain MM, Boyko O, McDonald WM, Krishnan KRR: Bicaudate index on magnetic resonance imaging: Effects of normal aging. *J of Geriatric Psychiatry & Neurology* 7(1): 13-17, 1994.
132. Charles HC, Lazeyras F, Krishnan KRR, Boyko OB, Patterson LJ, Doraiswamy PM, McDonald WM. Proton spectroscopy of human brain: Effects of age and sex. *Prog Neuro-Psychopharmacol & Biol Psychiat* 18(6): 995-1004, 1994.
133. Charles HC, Lazeyras F, Krishnan KRR, Boyko OB, Payne M, Moore D. Brain choline in depression: *In vivo* detection of potential pharmacodynamic effects of antidepressant therapy using hydrogen localized spectroscopy. *Prog Neuro-Psychopharmacol & Biol Psychiat* 18(7), 1994.
134. Potts NLS, Davidson JRT, Krishnan KRR, and Doraiswamy PM. Magnetic resonance imaging in social phobia. *Psychiatry Research* 52(1): 35-42, 1994.
135. Nemeroff CB, Knight DL, Franks J, Craighead WE, Krishnan KRR. Further studies on platelet serotonin transporter binding in depression. *Am J Psychiatry* 151(11) 1623-1625, 1994.
136. Tien RD, Felsberg GJ, Krishnan R, Heinz ER. MR Imaging of diseases of the limbic system. *American J Roentgenology* 163(3): 657-665, 1994.
137. Gadde KM and Krishnan KRR. Endocrine factors in depression. *Psychiatric Annals* 24: 521-524, 1994.
138. Shedlack KJ, McDonald WM, Laskowitz DT, Krishnan KRR. Geniculocalcarine hyperintensities on brain magnetic resonance imaging associated with visual hallucinations in the elderly. *Psychiatry Research: Neuroimaging* 54: 283-293, 1994.
139. Shedlack KJ, Eun-Kyu Lee, Radtke RA, Friedman AH, Crain BJ, Boyko OB, Krishnan KRR. Ipsilateral subcortical atrophy associated with temporal lobectomy. *Psychiatry Research: Neuroimaging* 54: 295-304, 1994.
140. Keshavan MS, Beckwith C, Bagwell W, Pettegrew JW, Krishnan KRR. An objective method for edge detection in MRI morphometry. *European Psychiatry* 9:205-207, 1994.
141. MacFall JR, Byrum C, Parashos I, Charles HC, Boyko OB, Chittilla V, Krishnan KRR. Relative accuracy and reproducibility of regional MRI brain volumes for point-counting methods. *Psychiatry Research* 55: 167-177, 1994.
142. Keshavan MS, Anderson S, Beckwith C, Nash K, Pettegrew JW, Krishnan KRR. A Comparison of Stereology and Segmentation Techniques for Volumetric Measurements of Lateral Ventricles in Magnetic Resonance Imaging. *Psychiatry Research: Neuroimaging* 61(1): 53-60, 1995.
143. Rajagopalan P, Krishnan KRR, Passe TJ, MacFall JR. Magnetic Resonance Imaging using Deoxyhemoglobin contrast versus Positron Emission Tomography in the assessment of brain function. *Prog Neuro-Psychopharmacol & Biol Psychiat* 19: 351-366, 1995.

144. Krishnan KRR, Hays JC, Tupler LA, George LK, Blazer DG. Clinical and phenomenological comparisons of late-onset and early-onset depression. *Am J Psychiatry* 152(5): 785-788, 1995.
145. Krishnan KRR, McDonald WM. Arteriosclerotic depression. *Medical Hypotheses* 44(2): 77-145, 1995.
146. Miner CM, Davidson JRT, Potts NLS, Tupler LA, Charles HC, Krishnan KRR. Brain fluoxetine measurements using Magnetic Resonance Spectroscopy in patients with Social Phobia. *Biol Psychiatry* 38: 696-698, 1995.
147. Gadde KM, Krishnan KRR. Magnetic Resonance Imaging and Spectroscopy in Affective Disorders. *Psiquiatria Biologica* 3(3): 52-60, 1995.
148. Koenig HG, Cohen HJ, Blazer DG, Kudler HS, Krishnan KR, Sibert TE. Religious coping and cognitive symptoms of depression in elderly medical patients. *Psychosomatics* 36(4): 369-375, 1995..
149. Keshavan MS, Anderson S, Beckwith C, Nash K, Pettegrew JW, Krishnan KR. A comparison of stereology and segmentation techniques for volumetric measurements of lateral ventricles in magnetic resonance imaging. *Psychiatry Research* 61(1): 53-60, 1995.
150. Passe TJ, Charles HC, Rajagopalan P, Krishnan KRR. Nuclear magnetic resonance spectroscopy: A review of neuropsychiatric applications. *Prog Neuro-Psychopharmacol & Biol Psychiat* 19: 541-563, 1995.
151. Gelenbe E, Feng U, Krishnan KRR. Neural network methods for volumetric magnetic resonance imaging of the human brain. *Proceedings of the IEEE* 84(10):1488-1496, 1996.
152. Kim D, Xanthakos S, Tien R, Byrum C, Krishnan KRR. Imaging in Acquired Immune Deficiency Syndrome dementia complex: A review. *Prog Neuro-Psychopharmacol & Biol Psychiat* 20(3): 349-370, 1996.
153. Keshaven MS, Mulsant BH, Sweet RA, Pasternak R, Zubenko GS, Krishnan KRR. MRI changes in schizophrenia in late life: A preliminary controlled stuyd. *Psychiatry Research* 60: 117-123, 1996.
154. Xanthakos S, Krishnan KRR, Kim D, Charles HC. Magnetic resonance imaging of Alzheimer's disease. *Prog Neuro-Psychopharmacol & Biol Psychiat* 20: 597-626, 1996.
155. Krishnan KRR, Gadde KM. The pathophysiologic basis for late-life depression: Imaging studies of the aging brain. *Geriatric Psychiatry Alliance, supplement to the Am J Geriatric Psychiatry* 4(1):S22-S33, 1996.
156. Krishnan KRR, Tupler LA, Ritchie JC, McDonald WM, Knight DL, Nemeroff CB, Carroll BJ. ApoE-E4 frequency in geriatric depression *Biol Psychiatry* 40(1): 69-71, 1996.
157. Said SMA, Tzung-Lieh Yeh, Greenwood RS, Whitt JK, Tupler LA, Krishnan KRR. MRI morphometric analysis and neuropsychological function in patients with neurofibromatosis. *NeuroReport* 7(12): 1941-1944, 1996.
158. Soares JC, Krishnan KRR, Keshavan MS. Nuclear Magnetic Resonance Spectroscopy: New Insights into the Pathophysiology of Mood Disorders. *Depression* 4:14-30, 1996.
159. Gonzalez MB, Snyderman TB, Colket JT, Arias RM, Jiang JW, O'Connor CM, Krishnan KRK. Depression in patients with Coronary Artery Disease. *Depression* 4:57-62, 1996.

160. Steffens DC, McDonald WM, Tupler LA, Boyko OB, Krishnan DRR. Magnetic resonance imaging changes in putamen nuclei iron content and distribution in normal controls. *Psychiatry Research: Neuroimaging* 68(1):55-61, 1996.
161. Kim D, Xanthakos S, Tupler LA, Charles HC, MacFall JR, Krishnan KRR. Magnetic-resonance signal-intensity mapping of the human brain: Effects of age and sex. *Am J Neuroradiology* (in press) 1997.
162. Greenwald BS, Kramer-Ginsberg E, Krishnan KRR, Ashtari M, Aupperle PM, Patel M. Magnetic Resonance Imaging signal hyperintensities in geriatric depression. *Am J Psychiatry* 153: 1212-1215, 1996.
163. Charles HC, Lazeyras F, Tupler LA, Krishnan KRR. Reproducibility of high spatial resolution proton Magnetic Resonance Spectroscopy imaging in the human brain. *Magnetic Resonance in Medicine* 35:606-610, 1996.
164. Krishnan KRR, Steffens DC, Doraiswamy PM. Psychotropic drug interactions. *Primary Psychiatry* 3:21-45, 1996.
165. Byrum CE, MacFall JR, Charles HC, Chitilla VR, Boyko OB, Upchurch L, Smith JS, Rajagopalan P, Passe T, Kim D, Xanthakos S, Krishnan KRR. Accuracy and reproducibility of brain and tissue volumes using a Magnetic Resonance Segmentation method. *Psychiatry Research* 67(3): 215-234, 1996.
166. Krishnan KRR, Davidson JRT, Doraiswamy PM. Pharmacotherapy of depression in bipolar disorder. *Primary Psychiatry* 3:45-60, 1996.
167. Gadde KM and Krishnan KRR. Depression in endocrine disorders. *Directions in Psychiatry* 16(15):1-8, 1996.
168. Steffens DC, Hays JC, George LK, Krishnan KRR, Blazer DG. Sociodemographic and clinical correlates of number of previous depressive episodes in the depressed elderly. *J Affect Disord* 39:99-106, 1996.
169. Gadde KM, Krishnan KRR. Recent advances in the pharmacological treatment of bipolar illness. *Psychiatric Annals* 27(7):496-506, 1997.
170. Doraiswamy PM, Bieber F, Kaiser L, Krishnan KRR, Reuning-Scherer J, Gulanski B. The Alzheimer's Disease Assessment Scale: Patterns and predictors of baseline cognitive performance in multicenter Alzheimer's Disease trials. *Neurology* 48: 1511-1517, 1997.
171. Escalona R, Tupler LA, Saur CD, Krishnan KRR and Davidson JRT. Screening for trauma history on an inpatient affective-disorders unit: A pilot study. *J Traumatic Stress* 10(2):299-305, 1997.
172. Tupler LA, Davidson JRT, Smith RD, Lazeyras F, Charles HC, Krishnan KRR. A repeat proton resonance spectroscopy study in social phobia. *Biol Psychiatry* 42:419-424, 1997.
173. Davidson JRT, Krishnan KRR. Screening for trauma history on an inpatient Affective Disorders Unit: A Pilot Study. *J Traumatic Stress* 10(2): 299-305, 1997.
174. Krishnan KRR, Hays JC, Blazer DG. MRI-Defined Vascular Depression. *The Am J Psychiatry* 154:(4)497-501, 1997.
175. Gadde KM, Krishnan KRR. Current status of Monoamine Oxidase Inhibitors in Psychiatric Practice. *Directions in Psychiatry* 17:59-69, 1997.

176. Doraiswamy PM, Bieber F, Kaiser L, Connors K, Krishnan KRR, Reuning-Scherer J, Bulanski J. Memory, language, and praxis in Alzheimer's Disease: Norms for outpatient clinical trial populations. *Psychopharmacology Bulletin* 33(1):123-128, 1997.
177. Krishnan KRR. Obesity. *Primary Psychiatry* 2:11-17, 1997.
178. Steffens DC, Krishnan KRR. Decision model for the acute treatment of mania. *Depression* 4(6):289-293, 1997.
179. Keshavan MS, Krishnan RR. New frontiers in psychiatric neuroimaging. *Prog Neuropsychopharmacol Biol Psychiatry* 21(8): 1181-1183, 1997.
180. Byrum CE, Thompson JE, Heinz ER, Krishnan KRR, Tien RD. Limbic circuits and neuropsychiatric disorders: Functional anatomy and neuroimaging findings. *Neuroimaging Clinics of North America* 7(1):79-99, 1997.
181. Passe TJ, Rajagopalan P, Tupler LA, Byrum CE, MacFall J, Krishnan KRR. Age and sex effects on brain morphology. *Prog Neuro-Psychopharmacol & Biol Psychiat* 21(8):1231-1237, 1997.
182. Steffens DC, Artigues DL, Ornstein KA, Krishnan KRR. A review of racial differences in geriatric depression: Implications for care and clinical research. *J Nat Med Assoc* 89:731-736, 1997.
183. Hays JC, Krishnan KRR, George LK, Blazer DG, Pieper CF. Psychosocial and physical correlates of chronic depression. *Psychiatry Research* 72(3):149-159, 1997.
184. Norris S, Krishnan KRR, Ahearn EP. Structural changes in the brain of patients with bipolar affective disorder by MRI: A review of the literature. . *Prog Neuro-Psychopharmacol & Biol Psychiat* 21:1323-1337, 1997.
185. Steffens DC, Krishnan KRR, Helms MJ. Are SSRIs better than TCAs. Comparison of SSRIs and TCAs:A meta-analysis. *Depression* 6:10-18, 1997.
186. Parsey R, Krishnan KRR. A new MRI ratio method for in-vivo estimation of signal hypointensity in aging and Alzheimer's Disease. *Prog Neuro-Psychopharmacol & Biol Psychiat* Vol. 21, 1997.
187. Steffens DC, Krishnan KRR. "Vascular Depression": A new subtype of geriatric depression. *Int J Psychiatry Med* 27: 318-319, 1997.
188. Watkins LL, Grossman P, Krishnan R, Sherwood A. Anxiety and vagal control of heart rate. *Psychosomatic Medicine* 60 (4): 498-502, 1998.
189. Clark LM, McDonald WM, Welsh-Bohmer KA, Siegler IC, Dawson DV, Tupler LA, Krishnan KRR. Magnetic resonance imaging correlates of depression in early-and late-onset Alzheimer's disease. *Biol Psychiatry* 44: 592-599, 1998.
190. Steffens DC, Krishnan KR. Psychotherapeutic agents in older adults. Metabolism, bioavailability, and drug interactions. *Clinical Geriatric Medicine* 14 (1): 17-31, 1998
191. Steffens DC, Krishnan KR. Structural neuroimaging and mood disorders: recent findings, implications for classification, and future directions. *Biological Psychiatry* 4B3 (10): 705-712, 1998
192. Krishnan KR, Gadde KM, Kim YD. Psychoneuroendocrinology and brain imaging in depression. *Psychiatric Clinics of North America* 21 (2): 465-472, 1998.
193. Parsey RV, Krishnan KR Quantitative analysis of T2 signal intensities in Alzheimer's disease.

Psychiatry Res 82(3):181-185, 1998.

194. Steffens DC, Tupler LA, Krishnan, KRR: Magnetic resonance imaging signal hypointensity and iron content of putamen nuclei in elderly depressed patients. *Psychiatry Research* 83: 95-103, 1998.
195. Lazeyras F, Charles HC, Tupler LA, Erickson R, Boyko OB, Krishnan KR: Metabolic brain mapping in Alzheimer's disease using proton magnetic resonance spectroscopy. *Psychiatry Res* 82(2):95-106, 1998.
196. Krishnan KR, George LK, Pieper CF, Jiang W, Arias R, Look A, O'Connor C Depression and social support in elderly patients with cardiac disease. *Am Heart J* 1998 Sep;136(3):491-5
Psychiatr Clin North Am 1998 Jun;21(2):465-72.
197. Krishnan KR, Gadde KM, Kim YD. Psychoneuroendocrinology and brain imaging in depression. *Psychiatr Clin North Am* 1998 Jun;21(2):465-72.
198. Krishnan KRR, Hays JC, George LK, Blazer DG: Six-month outcomes for MRI-related vascular depression.. *Depression and Anxiety* 8:142-146,1998.
199. Ahearn EP, Steffens DC, Cassidy F, Van Meter SA, Provenzale JM, Seldin MF, Weisler RH, Krishnan KRR: Familial leukoencephalopathy in bipolar disorder. *American J Psychiatry* 155: 1605-1607, 1998.
200. Flint EP, Hays JC, Krishnan KRR, Meador KG, Blazer DG: Suicidal behaviors in depressed me with a family history of suicide: effects of psychosocial factors and age. *Aging & Mental Health* 2 (4): 286-299, 1998.
201. Parashos IA, Tupler LA, Blitchington T, Krishnan KRR: Magnetic-resonance morphometry in patients with major depression. *Psychiatry Research : Neuroimaging* . 84:7-15,1998.
202. Doraiswamy PM, Charles HC, Krishnan KR . Prediction of cognitive decline in early Alzheimer's disease. *Lancet* Nov 21. 352. 1678.1998
203. Steffens DC, Krishnan KRR: Structural neuroimaging and mood disorders: Recent findings, implicatons, for classification, and future directions. *Biological Psychiatry* 43 (10): 705-712, 1998.
204. Gersing K, Doraiswamy M, Krishnan KR: Vascular dementia. *Current Opinion in Psychiatry* 11: 435-429, 1998.
205. Steffens, DC, Hays JC, Krishnan KRR: Disability in geriatric psychiatry. *American Journal Geriatric Psychiatry* 7 (1): 34-40, 1999.
206. Byrum CE, Ahearn EP, Krishnan KRR. A neuroanatomic model for depression. *Progress in Biological Psychiatry* 23: 175-193, 1999.
207. Kramer-Ginsberg E, Greenwald BS, Krishnan KR, Christiansen B, Hu J, Ashtari M, Patel M, Pollack S: Neuropsychological functioning and MRI signal hyperintensities in geriatric depression. *Amer J. Psychiatry* 156 (3): 438-444, 1999.
208. Steffens DC, O'Connor CM, Jiang WJ, Pieper CF, Kuchibhatla MN, Arias RM, Look A, Davenport C, Gonzalez MB, Krishnan KR: The effect of major depression on functional status in patients with coronary artery disease. *J. American Geriatric Society* 47 (3): 319-322, 1999.
209. Thakur M, Hays J, Krishnan KRR: Clinical, demographic and social characteristics of psychotic depression. *Psychiatry Research* 86: 99-106, 1999.

210. Baldewicz TT, Babyak M, Khatri P, Moore K, Napolitano M, Waugh R, Krishnan R, Blumenthal JA: Attendance and adherence to an exercise intervention study and psychosocial predictors of change in depressed mood. *Psychosomatic Medicine* 61 (1): 89, 1999.
211. Watkins LL, Grossman P, Krishnan R, Blumenthal JA: Anxiety reduces baroreflex cardiac control in older adults with major depression. *Psychosomatic Medicine* 61 (3): 334-340, 1999.
212. Blumenthal JA, Babyak M, Moore K, Craighead E, Herman S, Khatri P, Napolitano M, Doraiswamy PM, Krishnan KR: Exercise training and major depression. *Psychosomatic Medicine* 61 (1): 124-125, 1999.
213. Krishnan KR: Brain imaging correlates. *Journal Clinical Psychiatry* 60 (Suppl. 15): 50-54, 1999.
214. Kim DK, Kom BL, Sohn SE, Lim SW, Na DG, Paik CH, Krishnan KRR, Carroll BJ: Candidate neuroanatomic substrates of psychosis in old-aged depression. *Progress in Neuro-Psychopharmacology & Biological Psychiatry* 23 (5): 793-807, 1999.
215. Lynch, T.R., Johnson, C.S., Mendelson, T., Robins, C.J., Krishnan, K.R.R., Blazer, D.G.: New onset and remission of suicidal ideation among a depressed adult sample. *Journal of Affective Disorders*. 56: 49-54, 1999.
216. Blumenthal JA, Babyak MA, Moore KA, Craighead E, Herman S, Khatri P, Waugh R, Napolitano MA, Forman LA, Appelbaum M, Doraiswamy PM, Krishnan KR: Effects of exercise training on older patients with major depression. *Archives of Internal Medicine* 159: 2349-2356, 1999.
217. Lynch, T.R., Mendelson, T., Robins, C.J., Krishnan, K.R.K, George, L.K., Johnson, C.S., and Blazer, D.G. Perceived social support among depressed elderly, middle-aged, and young adult samples: Cross-sectional and longitudinal analyses. *Journal of Affective Disorders* 55: 159-170, 1999.
218. Steffens DC, Helms MJ, Krishnan KRR, Burke GL: Cerebrovascular disease and depression symptoms in the cardiovascular health study. *Stroke* 30: 2159-2166, 1999.
219. Krishnan KRR (Moderator): Current treatments in Alzheimer's disease. *Primary Psychiatry* 6 (7): 55-59, 1999.
220. Doraiswamy PM, MacFall J, Krishnan KR, O'Connor C, Lewandowsky M, Benaur M: Magnetic resonance assessment of cerebral perfusion in elderly depressed cardiac patients. *Amer. J. Psychiatry* 156 (10): 1641-1643, 1999.
221. Kishnani PS, Sullivan J, Walter BK, Doraiswamy PM, Krishnan KR: Cholinergic therapy for Down Syndrome. *Lancet* 353: 1064-1065, 1999.
222. Lynch TR, Johnson CS, Mendelson T, Robins CJ, Krishnan KRR, Blazer DG: Correlates of suicidal ideation among an elderly depressed sample. *J. Affect Dis* 56: 9-15, 1999.
223. Clary GL, Krishnan KRR: Cerebrovascular changes in late life depression. *International Journal Geriatric Psychopharmacology* 2: 97-104, 2000.
224. Krishnan KRR: Efficient trial designs to reduce placebo requirements. *Biol. Psychiatry* 47: 724-726, 2000.
225. Barboriak DP, Doraiswamy PM, Krishnan KRR, Vidyarthi S, Sylvester J, Charles HC: Hippocampal sulcal cavities on MRI: relationship to age and apolipoprotein E-genotype. *Neurology* 54: 2150-2153, 2000.

226. Bosworth HB, Steffens DC, Kuchibhatla MN, Jiang WJ, Arias RM, O'Connor CM, Krishnan KRR: The relationship of social support, social networks and negative events with depression in patients with coronary artery disease. *Aging & Mental Health* 4 (3): 253-258, 2000.
227. Varia I, Logue E, O'Connor C, Wagner HR, Davenport C, Rathey K, Krishnan KRR: Randomized trial of sertraline in patients with unexplained chest pain of noncardiac origin. *American Heart J* 140: 367-372, 2000.
228. Steffens DC, Byrum CE, McQuoid DR, Greenberg DC, Payne ME, Blitchington TF, MacFall JR, Krishnan KRR: Hippocampal volume in geriatric depression. *Biol Psychiatry* 48: 301-309, 2000.
229. Lynch TR, Compton JS, Mendelson T, Robins CJ, Krishnan KRR: Anxious depression among the elderly: clinical and phenomenological correlates. *Aging & Mental Health* 4 (3): 268-274, 2000.
230. Barboriak DP, Doraiswamy PM, Krishnan KRR, Vidyarthi S, Sylvester J, Charles HS: Hippocampal sulcal cavities on MRI: relationship to age and apolipoprotein E genotype. *Neurology* 54: 2150-2153, 2000.
231. Bosworth HB, Steffens DC, Kuchibhatla MN, Jiang WJ, Arias RM, O'Connor CM, Krishnan KRR: The relationship of social support, social networks, and negative events with depression in patients with coronary artery disease. *Aging & Mental Health* 4 (3): 253-258, 2000.
232. Newhouse PA, Krishnan KR, Doraiswamy PM, Richter EM, Clary ED: A double blind comparison of sertraline and fluoxetine in depressed elderly outpatients. *J. Clin Psychiatry* 61 (8): 559-568, 2000.
233. Steffens DC, MacFall JR, Payne ME, Welsh-Bohmer KA, Krishnan KRR: Grey matter lesions and dementia. *Lancet* 356: 1686-1687, 2000.
234. Lai TJ, Payne ME, Byrum CE, Steffens DC, Krishnan RR: Reduction of orbital frontal cortex volume in depression. *Biol Psychiatry* 48: 971-975, 2000.
235. Khatri P, Blumenthal JA, Babyak MA, Craighead WE, Herman S, Baldewicz T, Madden DJ, Doraiswamy M, Waugh R, Krishnan KR: Effects of exercise training on cognitive functioning among depressed older men and women. *J Aging & Physical Activity* 9: 43-57, 2001.
236. Kishnani P, Spiridigliozzi GA, Heller JH, Sullivan JA, Doraiswamy PM, Krishnan KR: Donepezil for Down Syndrome. *Amer J Psychiatry* 158 (1): 143, 2001.
237. Krishnan KR, Doraiswamy PM, Clary C: Clinical and treatment response characteristics of vascular depression in the elderly. *Prog. Neuropsychopharm./Biol. Psychiatry* 25: 347-361, 2001
238. Mast ST, Gersing KR, Anstrom KJ, Krishnan KR, Califf RM, Jollis JG: Association between selective serotonin-reuptake inhibitor therapy and heart valve regurgitation. *Am J Cardiol.* 87: 989-993, 2001.
239. MacFall, JR, Payne ME, Provenzale JE, Krishnan KRR: Medial orbital frontal lesions in late-onset depression. *Biological Psychiatry* 49: 803-806, 2001.
240. Blumenthal JA, Hart A, Sherwood A, Doraiswamy M, Herman S, Watkins L, Hinderliter A, Gullette E, Krishnan KR: Depression and vascular function in older adults. *North Carolina Medical Journal* 62 (3): 95-98, 2001.
241. Thurston RC, Keefe FJ, Bradley L, Krishnan KRR, Caldwell DS: Chest pain in the absence of coronary artery disease: a biopsychosocial perspective. *Pain* 93: 95-100, 2001.

242. Krishnan KRR, Levy RM, Wagner HR, Chen G, Gersing K, Doraiswamy PM: Informant-rated cognitive symptoms in normal aging, mild cognitive impairment, and dementia: Initial development of a informant-rated screen (brief cognitive scale) for mild cognitive impairment and dementia. *Psychopharmacology Bulletin* 35 (3): 80-88, 2001.
243. Jiang W, Alexander J, Christopher E, Kuchibhatla M, Gaulden L, Cuffe MS, Blazing MA, Davenport C, Califf RM, Krishnan RR, O'Connor CM: Relationship of depression to increased risk of mortality and rehospitalization in patients with congestive heart failure. *Archives Internal Medicine* 161: 1849-1856, 2001.
244. Steffens DC, Wagner HR, Levy RM, Horn KA, Krishnan KRR: Performance feedback deficit in geriatric depression. *Biol. Psychiatry* 50: 358-363, 2001.
245. Gadde KM, Parker CB, Maner LG, Wagner HR, Logue EJ, Drezner MK, Krishnan KRR: Bupropion for weight loss: An investigation of efficacy and tolerability in overweight and obese women. *Obesity Research* 9 (9): 544-551, 2001.
246. Clary GL, Krishnan KR: Delirium, diagnosis, neuropathogenesis, and treatment. *J. Psychiatric Practice* 7: 310-323, 2001.
247. Taylor WD, Payne ME, Krishnan KRR, Wagner HR, Provenzale JM, Steffens DC, MacFall JR: Evidence of white matter tract disruption in leukoencephalopathy. *Biological Psychiatry* 50: 179-183, 2001.
248. Jiang W, Krishnan RR, O'Connor CM: Depression and heart disease. Evidence of a link, and its therapeutic implications. *CNS Drugs* 16 (2): 111-127, 2002.
249. Olin JT, Katz IR, Alexopoulos GS, Bruce ML, Cummings JL, Krishnan KRR, et al: Provisional diagnostic criteria for depression in alzheimer's disease. *Amer J. Geriatric Psychiatry* 10: 125-128, 2002.
250. Steffens DC, McQuoid DR, Krishnan RR: The Duke somatic treatment algorithm for geriatric depression (STAGED) approach. *Psychopharm Bull* 36(2): 58-68, 2002.
251. Charney DS, Nemeroff CB, Lewis L, Laden SK, Gorman JM, et al: National depressive and manic-depressive association consensus statement on the use of placebo in clinical trials of mood disorders. *Arch Gen Psychiatry* 59: 262-270, 2002.
252. Steffens DC, Marchuk DA, Hays JC, Krishnan KRR: Allelic differences in the serotonin transporter-linked polymorphic region in geriatric depression. *Am J Geriatr Psychiatry* 10(2): 1-7, 2002.
253. Salloway S, Boyle PA, Correia S, Malloy PF, Cahn-Weiner DA, Schneider L, Krishnan KRR, Nakra R: The relationship of MRI subcortical hyperintensities to treatment response in a trial of sertraline in geriatric depressed outpatients. *Am. J. Geriatric Psychiatry* 10(1): 107-111, 2002.
254. Davidson J, Members of the Hypericum Depression Trial Study Group: Effect of hypericum perforatum (St. John's Wort) in major depressive disorder. A randomized controlled trial. *JAMA* 287 (14): 1807-1814, 2002.
255. Steffens DC, Krishnan KRR, Crump C, Burke GL: Cerebrovascular disease and evolution of depressive symptoms in the cardiovascular health study. *Stroke* 33: 1636-1644, 2002.
256. Kim DM, Xanthakos SA, Tupler LA, Barboriak DP, Charles HC, MacFall JR, Krishnan KRR: MR signal intensity of gray matter/white matter contrast and intracranial fat: effects of age and sex. *Psychiatry Research* 114: 149-161, 2002.

257. Doraiswamy PM, Krishnan KRR, Anand R, Sohn H, Danyluk J, Hartman RD, Veatch J: Long-term effects of rivastigmine in moderately severe Alzheimer's disease. Does early initiation of therapy offer sustained benefits? *Progress Neuro-Psychopharmacology & Biological Psychiatry* 26: 705-712, 2002.
258. Ahearn EP, Speer MC, Chen YT, Steffens DC, Cassidy F, Van Meter S, Provenzale JM, Weisler RH, Krishnan KRR: Investigation of Notch3 as a candidate gene for bipolar disorder using brain hyperintensities as an endophenotype. *Amer. J. Medical Genetics* 114: 652-658, 2002.
259. Khan A, Khan SR, Leventhan RM, Krishnan KR, Gorman JM: An application of the revised CONSORT standards to FDA summary reports of recently approved antidepressants and antipsychotics. *Biol. Psychiatry* 52 (1): 62-67, 2002.
260. Beyer JL, Krishnan KR: Volumetric brain imaging findings in mood disorders. *Bipolar Disorder* 4 (2): 89-104, 2002.
261. Glassman AH, O'Connor CM, Califf RM, Swedberg K, Schwartz P, Bigger JT Jr., Krishnan KRR, Van Zyl LT, Swenson JR, Finkel MS, Landau C, Shapiro PA, Pepine CJ, Mardekian J, Harrison WM: Sertraline treatment of major depression in patients with acute MI or unstable angina. *JAMA* 288 (6): 701-709, 2002.
262. Tupler L, Krishnan K, McDonald W, Dombeck C, D'Souza S, Steffens D: Anatomic location and laterality of MRI signal hyperintensities in late-life depression. *J Psychosomatic Res.* 53 (2) : 665, 2002.
263. Payne M, Fetzer D, MacFall J, Provenzale J, Byrum C, Krishnan K : Development of a semi-automated method for quantification of MRI gray and white matter lesions in geriatric subjects. *Psychiatry Res.* 115(1-2): 63, 2002.
264. Krishnan KRR: Biological risk factors in late life depression. *Biological Psychiatry* 52: 185-192, 2002.
265. Steffens DC, Levy RM, Wagner R, McQuoid DR, Krishnan KRR, Carroll BJ: Sociodemographic and clinical predictors of mortality in geriatric depression. *Am J Geriatr Psychiatry* 10: 531-540, 2002.
266. Krishnan KRR, DeLong M, Kraemer H, Carney R, Spiegel D, Gordon C, McDonald W, et al: Comorbidity of depression with other medical diseases in the elderly. *Biological Psychiatry* 52 (6): 559-588, 2002.
267. Alexopoulos GS, Buckwalter K, Olin J, Martinez R, Wainscott C, Krishnan KRR: Comorbidity of late life depression: an opportunity for research on mechanisms and treatment. *Biological Psychiatry* 52 (6): 543-558, 2002.
268. Harrison MO, Krishnan KR: Antipsychotic medications and sudden cardiac death. *Psychopharmacology Bulletin* 36 (3): 91-99, 2002.
269. Freedland KE, Skala JA, Carey RM, Raczynski JM, Taylor CR, Mendes de Leon C, Ironson G, Youngblood ME, Krishnan KR, Veith RC: The depression interview and structured Hamilton (DISH): Rationale development, characteristics, and clinical validity. *Psychosomatic Med.* 64:897-905, 2002.
270. Gersing KR, Krishnan R: Practical evidence-based medicine. *Psychopharmacology Bulletin* 36(4): 20-26, 2002.
271. Krishnan R: Evidence-based mental health. *Psychopharmacology Bulletin* 36(4): 27-34 2002.
272. Taylor WD, Krishnan KRR: Management of late-life depression: Focus on comorbid conditions. *Psychopharmacology Bulletin* 36 (Suppl. 3) : 113-130, 2002

273. Salloway, S, Correia S, Boyle P, Malloy P, Schneider L, Lavretsky H, Sackheim H, Roose S, Krishnan KRR: MRI subcortical hyperintensities in old and very old depressed outpatients: The important role of age in late-life depression. *J Neurological Sciences* 203-204: 227-233, 2002.
274. Herman S, Blumenthal JA, Babyak M, Khatri P, Craidhead WE, Krishnan KR, Doraiswamy PM: Exercise therapy for depression in middle aged and older adults: Predictors of early dropout and treatment failure. *Health Psychology* 21 (6): 553-563, 2002.
275. Krishnan KR: Clinical experience with substance P (Neurokinin [NK]₁) receptor antagonists (SPAs) in depression. *J. Clinical Psychiatry* 63 (Suppl. 11): 25-29, 2002.
276. Krishnan KR: Pathophysiology of depression: The emerging role of substance P. *J. Clinical Psychiatry* 63(Suppl. 11): 4-5, 2002.
277. Heller JH, Spiridigliozzi GA, Sullivan JA, Doraiswamy PM, Krishnan KRR, Kishnani PS. Donepezil for the treatment of language deficits in adult down syndrome: A preliminary 24-week open trial. *American Journal of Medical Genetics* 116: 111-116, 2003.
278. Meltzer HY, Aplhs, L, Green AI, Altamura AC, Anand R, Bertoldi A, Bourgeois M, Chouinard G, Islam MZ, Kane J, Krishnan R, Lindenmayer JP, Potkin S. Clozapine treatment for suicidality in schizophrenia. *Archives General Psychiatry* 60 (1): 82-91, 2003.
279. Taylor WD, Steffens DC, McQuoid DR, Payne ME, Lee SH, Lai TJ, Krishnan KRR. Smaller orbital frontal cortex volumes associated with functional disability in depressed elders. *Biol. Psychiatry* 53: 144-149, 2003.
280. Beyer JL, Kuchibhatla M, Looney C, Engstrom E, Cassidy F, Krishnan KRR. Social support in elderly patients with bipolar disorder. *Bipolar Disorder* 5: 22-27, 2003.
281. Taylor WD, MacFall JR, Steffens DC, Payne ME, Provenzale JM, Krishnan KRR. Localization of age-associated white matter hyperintensities in late-life depression. *Prog. Neuro-Psychopharma. & Biol. Psychiatry* 27:539-544, 2003.
282. Gadde KM, Franciscy DM, Wagner, II HR, Krishnan KRR. Zonisamide for weight loss in obese adults. A randomized controlled trial. *JAMA* 289(14): 1820-1825, 2003.
283. Steffens DC, McQuoid DR, Krishnan KRR. Partial response as a predictor of outcome in geriatric depression. *Amer J. Geriatric Psychiatry* 11:340-348, 2003.
284. Gagliardi JP, Krishnan RR. Evidence for the Treatment of Borderline Personality Disorder. *Psychopharmacology Bulletin* 37: 30-46, 2003.
285. Vythilingam M, Charles HC, Tupler LA, Blitchington T, Kelly L, Krishnan KRR. Focal and Lateralized Subcortical Abnormalities in Unipolar Major Depressive Disorder: An Automated Multivoxel Proton Magnetic Resonance Spectroscopy Study. *Biol. Psychiatry* 54: 744-750, 2003.
286. Carpenter LL, Kalin NH, Keller MB, Krishnan KRR, Nemeroff CB. Atypical Depression: Overview and New Developments. *CNS News, Special Report* May 2003.

287. Taylor WD, MacFall JR, Provenzale JM, Payne ME, McQuoid DR, Steffens DC, Krishnan KRR. Serial MR Imaging of Volumes of Hyperintense White Matter Lesions in Elderly Patients: Correlation with Vascular Risk Factors. *Amer J Roentgenol* 181; 571-576, 2003.
288. Charney DS, Reynolds CF, Lewis L, Lebowitz BD, et al: Depression and Bipolar Support Alliance Consensus Statement on the Unmet Needs in Diagnosis and Treatment of Mood Disorders in Late Life. *Arch Gen Psychiatry*, 60 (7): 664 – 672, 2003.
289. Schneider LS, Nelson JC, Clary CM, Newhouse P, Krishnan KRR, Shiovitz T, Weihs K, Sertraline Elderly Depression Study Group. An 8-Week Multicenter, Parallel-Group, Double-Blind, Placebo-Controlled Study of Sertraline in Elderly Outpatients with Major Depression. *Am J Psychiatry* 160(7): 1277-1285, 2003.
290. Gagliardi JP, Krishnan RR. Evidence based mental health use of anticonvulsants in pregnancy. *Psychopharmacology Bulletin*: 37 (2):59-66, 2003.
291. Lee SH, Payne ME, Steffens DC, McQuoid DR, Lai TJ, Provenzale JM, Krishnan KRR. Subcortical Lesion Severity and Orbitofrontal Cortex Volume in Geriatric Depression. *Biol Psychiatry* 54; 529 – 533, 2003.
292. Finkel SI, Mintzer JE, Dysken M, Krishnan KRR, Burt T, McRae T. A randomized, placebo-controlled study of the efficacy and safety of sertraline in the treatment of the behavioral manifestations of Alzheimer's disease in outpatients treated with donepezil. *Int J Geriatric Psychiatry* 18: 1-10, 2003.
293. Steffens DC, Taylor WD, Krishnan KRR. Progression of Subcortical Ischemic Disease from Vascular Depression to Vascular Dementia. *Am J Psychiatry* 160(10): 1751 - 1756, 2003.
294. Jamerson BD, Krishnan KRR, Roberts J, Krishen A, Modell JG: Effect of Bupropion SR on Specific Symptom Clusters of Depression: Analysis of the 31 – Item Hamilton Rating Scale for Depression. *Psychopharmacology Bulletin* 37:67-78, 2003.
295. Krishnan KRR, Charles HC, Doraiswamy PM, Mintzer J, Weisler R, Yu X, Perdomo C, Ieni JR, Rogers S. Randomized, Placebo-Controlled Trial of the Effects of Donepezil on Neuronal Markers and Hippocampal Volumes in Alzheimer's Disease. *Am J Psychiatry* 160 (11): 2003 – 2111, 2003.
296. Levy RM, Steffens DC, McQuoid DR, Provenzale JM, MacFall JR, Krishnan KRR. MRI Lesion Severity and Mortality in Geriatric Depression. *AM J Geriatr Psychiatry* 11(6):678 - 682, 2003.
297. Taylor WD, Steffens DC, MacFall JR, McQuoid DR, Payne ME, Provenzale JM, Krishnan KRR. White Matter Hyperintensity Progression and Late-Life Depression Outcomes. *Arch Gen Psychiatry*, 60 (11):1090 – 1096, 2003.
298. Steffens DC, McQuoid DR, Welsh-Bohmer KA, Krishnan KRR. Left Orbital Frontal Cortex Volume and Performance on the Benton Visual Retention Test in Older Depressives and Controls. *Neuropsychopharmacology* 28, 2179-2183, 2003.
299. Krishnan KRR. Monoamine Oxidase Inhibitors. *Textbook of Psychopharmacology* 18, 303-314, 2003.
300. Krishnan R. Evidence Based Practice: How to Evaluate What You Read. *Psychopharmacology Bulletin*: 7(4):1- 4, 2003.
301. Gersing K, Krishnan R: Clinical Computing. *Clinical Management Research Information System (CRIS)*. *Psychiatry Services* 54 (9): 1199-1200, 2003.

315. Beyer JL, Kuchibhatla M, Payne ME, Moo-Young M, Cassidy F, MacFall J, Krishnan KRR. Hippocampal Volume Measurement In Older Adults With Bipolar Disorder. *American Journal of Geriatric Psychiatry*, 12(6): 613-620, 2004.
316. Zhang X, Gainetdinov RR, Beaulieu JM, Sotnikova TD, Burch LH, Williams RB, Schwartz DA, Krishnan RR, Caron MG. Loss-of-Function Mutation in Tryptophan Hydroxylase-2 Identified in Unipolar Major Depression. *Neuron*, Published Online December 9, 2004. DOI: 10.1016/j.neuron.2004.12.014.
317. Taylor WD, McQuoid DR, Steffens DC, Krishnan KR. Is there a definition of remission in late-life depression that predicts later relapse? *Neuropsychopharmacology*, 29(12): 2272-2277, 2004.
318. Potter GG, Kittinger JD, Wagner HR, Steffens DC, Krishnan KR. Prefrontal neuropsychological predictors of treatment remission in late-life depression. *Neuropsychopharmacology*, 29(12): 2266-2271, 2004.
319. Sakinofsky I, Heila H, Krishnan R. Estimating suicidality as outcome measure in clinical trials of suicide in schizophrenia. *Schizophrenia Bulletin*, 30(3): 587-598, 2004.
320. Ostbye T, Curtis LH, Masselink LE, Hutchison S, Wright A, Dans PE, Schulman KA, Krishnan RR. Atypical Antipsychotic Drugs and Diabetes Mellitus in a Large Outpatient Population: A Retrospective Cohort Study. *Pharmacoepidemiology and Drug Safety*, 14: 407-415, 2005.
321. Krishnan KR. Psychiatric and Medical Comorbidities of Bipolar Disorder. *Psychosomatic Medicine*, 67(1): 1-8, 2005.
322. Lieberman JA, Greenhouse J, Hamer RM, Krishnan KR, Nemeroff CB, Sheehan DV, Thase ME, Keller MB. Comparing the Effects of Antidepressants: Consensus Guidelines for Evaluating Quantitative Reviews of Antidepressant Efficacy. *Neuropsychopharmacology*, 2005.
323. Beyer J, Kuchibhatla M, Gersing K, Krishnan KRR. Medical Comorbidity in a Bipolar Outpatient Clinical Population. *Neuropsychopharmacology*, 30(2): 401-404, 2005.
324. Curtis LH, Masselink LE, Ostbye T, Hutchison S, Dans PE, Wright A, Krishnan RR, Schulman KA. Prevalence of Atypical Antipsychotic Drug Use among Commercially Insured Youths in the United States. *Archives Pediatric Adolescent Medicine*, 159: 362-366, 2005.
325. Khan A, Kolts RL, Rapaport MH, Krishnan KR, Brodhead AE, Brown WA. Magnitude of Placebo Response and Drug Placebo Differences across Psychiatric Disorders. *Psychological Medicine*, 35(5): 743-749, 2005.
326. Taylor WD, Steffens DC, Payne ME, MacFall JR, Marchuk DA, Svenson IK, Krishnan KRR. Influence of serotonin transporter promoter region polymorphisms on hippocampal volumes in late-life depression. *Archives of General Psychiatry*, 62: 537-544, 2005.
327. March JS, Silva SG, Compton S, Shapiro M, Califf R, Krishnan R. The Case for Practical Clinical Trials in Psychiatry. *American Journal of Psychiatry*, 162(5): 836-846, 2005.
328. Vitiello B, Shader RI, Parker CB, Ritz L, Harlan W, Greenblatt DJ, Gadde KM, Krishnan KR, Davidson JR. Hyperforin Plasma Level as a Marker of Treatment Adherence in the National Institutes of Health Hypericum Depression Trial. *Journal of Clinical Psychopharmacology*, 25(3): 243-249, 2005.

329. Steffens DC, Pieper CF, Bosworth HB, MacFall JR, Provenzale JM, Payne ME, Carroll BJ, George LK, Krishnan KRR. Biological and social predictors of long-term geriatric depression outcome. *International Psychogeriatrics*, 17: 41-56, 2005.
330. Krishnan KRR. Through The Looking Glass: Risk Perception. *Biological Psychiatry* 57(12): 1477-1478, 2005.
331. Beyer JL, Taylor WD, MacFall JR, Kuchibhatla M, Payne ME, Provenzale JM, Cassidy F, Krishnan KRR. Cortical White Matter Microstructural Abnormalities in Bipolar Disorder. *Neuropsychopharmacology* 1-5, 2005.
332. Serebruany VL, Sukhow RF, Cooper TB, Glassman AH, Malinin AI, Krishnan RR, Lekht V, Gurbel PA, Harrison W, Clary CM, O'Connor CM. Relationship between release of platelet/endothelial biomarkers and plasma levels of sertraline and N-Desmethylsertraline in acute coronary syndrome patients receiving SSRI treatment for depression. *American Journal Psychiatry* 162: 1165-1170, 2005.
333. Krishnan KR. Psychiatric disease in the genomic era: rational approach. *Molecular Psychiatry*: 1-7, 2005.
334. Rajkowska G, Miguel-Hidalgo JJ, Dubey P, Stockmeier CA, Krishnan KRR. Prominent Reduction in Pyramidal Neurons Density in the Orbitofrontal Cortex of Elderly Depressed Patients. *Biological Psychiatry* 58: 297-306, 2005.
335. Davidson J, Watkins L, Owens M, Krulewicz S, Connor K, Carpenter D, Krishnan R, Nemeroff C. Effects of Paroxetine and Venlafaxine XR on Heart Rate Variability in Depression. *Journal of Clinical Psychopharmacology* 25(5): 480-484, 2005.
336. Jiang W, Glassman A, Krishnan R, O'Connor CM, Califf RM. Depression and ischemic heart disease: What have we learned so far and what must we do in the future? *American Heart Journal* 150(1): 54-78, 2005.

In Press: (Journals)

Steffens DC, Krishnan KRR. SSRIs versus TCAs: A decision model to evaluate which is the better antidepressant. *Primary Psychiatry* (in press).

Hays JC, Krishnan KRR, George LK, Flint EP, Blazer DG. Age of first onset of bipolar disorder: Demographic, family history, and psychosocial correlates. *Depression and Anxiety* (in press).

Greenwald BS, Kramer-Ginsberg E, Krishnan KR, Ashtari M, Auerbach C, Patel M: A controlled study of MRI signal hyperintensities in elderly depressed patients with and without hypertension. J American Geriatrics Society. (in press).

Kramer-Ginsberg E, Greenwald BS, Krishnan RR, Christiansen B, Hu J, Ashtari M, Patel M, Pollack S: Neuropsychological functioning and MRI signal hyperintensities in geriatric depression. Submitted to Amer. J Psychiatry

Doraiswamy PM, Danish M, Vidyarthi S, Charles HC, Krishnan KRR: Brain 1H-MR Spectroscopy and Alzheimer's disease drug development. (submitted).

Krishnan KRR, Doraiswamy M, Clary CM: Sertraline in the treatment of late-life depression: A comparison of patients with and without vascular disease. *Journal American Geriatric Society* (submitted).

Kramer-Ginsberg E, Greenwald BS, Krishnan KRR, Christiansen B, Hu J, Ashtari M, Aupperle P, Patel M, Pollack S: Neuropsychological functioning and MRI signal hyperintensities in geriatric depression. *American Journal of Psychiatry*, in press.

Norris S, Byrum, C, Robertson KR, Krishnan KRR, Whaley R, Hall, MJ, Hall CD: Quantitative volumetric analyses of brain MRI in a longitudinal study of HIV infection. (in press)

Baldewicz T, Herman S, Babyak MA, Khatri P, Craighead WE, Krishnan KR, Doraiswamy PM, Blumenthal, JA: Exercise therapy for depression in older adults: Predictors of treatment adherence and outcome. Submitted to The Journal of Consulting & Clinical Psychology, 1999.

Babyak M, Blumenthal JA, Herman S, Khatri P, Doraiswamy M, Moore K, Craighead WE, Baldewicz TT, Krishnan KRR: Exercise treatment for major depression: Maintenance of therapeutic benefit at 10 months. In Press, Psychosomatic Med, March 2000.

Steffens DC, Byrum CE, McQuoid DR, Greenberg D, Payne ME, Blitchington TF, MacFall JR, Krishnan KRR: Hippocampal volume in geriatric depression. In press, *Biol. Psychiatry*, 2000.

Doraiswamy PM, Barboriak DP, Krishnan KR, Chen G, Charles HC: Loss of neuronal markers in aging subjects of risk for Alzheimer's disease. Submitted: Nature Neuroscience

Khan A, Khan SRF, Leenthal RM, Krishnan KR, Rappaport M: Symptom reduction among anxiety spectrum disorder patients assigned to placebo in anxiolytic clinical trials. In press.

Doraiswamy PM, Danish M, Vidyarthi S, Krishnan KR, Charles HC: MRS and dementia drug development. *Neurobiol. Aging*, in press.

Gillen TE, Gregg KM, Yuan H, Kurth MC, Krishnan KR: Clinical trials in alzheimer's disease: calculating ADAS-cog in CERAD. Submitted.

Schneider LS, Nelson JC, Newhouse P, Krishnan KRR, Shiovitz T, Weihs K: An eight-week, multicenter, parallel-group, double-blind, placebo-controlled study of sertraline in elderly outpatients with major depression. Submitted: American J. Psychiatry.

Klawansky S, Slobodskaya L, Connelly JE, Komaroff E, Krishnan R: Meta-analysis of studies comparing paroxetine to fluoxetine in treatment depression. In progress.

Meltzer HY et al: Reduced suicidality in schizophrenia and schizoaffective disorder with clozapine: Report of the international suicide prevention trial (InterSePT). Submitted to New England J. Medicine, 2001.

Doraiswamy M, Krishnan KR, Oxman TE, Jenkyn LR, Coffey DJ, Burt T, Clary CM: Does antidepressant therapy improve cognition in elderly depressed patients? Submitted: American J. Psychiatry.

Potkin SG, Alphs L, Hsu C, Krishnan R, Anand R, Young F, Meltzer H, Green A, InterSept Study Group: Predicting suicidal risk in schizophrenic patients at high risk for suicide and the influence of treatment on these predictors. Submitted: Archives General Psychiatry and Biological Psychiatry, 2002.

Finkel SI, Mintzer JE, Dysken M, Krishnan KRR, Burt T, McRae T: Sertraline augmentation enhances control of behavioral symptoms in outpatients with Alzheimer's Disease treated with donepezil. In progress.

Krishnan KRR: Comorbidity and depression treatment. Submitted: J Biological Psychiatry, 2002

Taylor WD, Steffens DC, McQuoid DR, MacFall JR, Payne ME, Provenzale M, Krishnan KRR: Smaller right caudate volumes are associated with greater deep white matter severity in depressed elders. In submission: J Affective Disorders.

Krishnan KRR, Doraiswamy PM, Hellegers C, Varia I, Wagner R, Clary G, et al: A randomized controlled trial of paroxetine for non-cardiac chest pain. Submitted: Pain 2002.

Krishnan KR, Christensen DD, Kelsey JE, Roy-Byrne PP: Remission of depression and anxiety. In press: *Journal of Clinical Psychiatry*, 2002.

Kane JM, Green A, Islam Z, Krishnan R, et al: Two year comparison of weight gain and outcomes in patients at high risk for suicide: Clozapine versus olanzapine. Submitted Amer J Psychiatry, July 2002.

Marsh JS, Silva S, Compton S, Califf R, Krishnan R: The case for large, simple trials in psychiatry. Submitted Amer J Psychiatry, August 2002.

Lee SH, Payne ME, McQuoid DR, Steffens DC, Lai TJ, Krishnan KRR: Subcortical lesions and orbitofrontal cortex volumes in geriatric depressed subjects. Submitted Biological Psychiatry, 2002.

Taylor WD, MacFall JR, Provenzale JM, Payne ME, McQuoid DR, Steffens DC, Krishnan KRR: Serial MR imaging of hyperintense white matter lesion volumes in elderly subjects: correlation with vascular risk factors. Submitted Radiology.

Steffens DC, Pieper CF, Bosworth HB, MacFall JR, Provanzale JM, Payne ME, Carroll BJ, George LK, Krishnan KRR: A hierarchical linear model of biological and social predictors of geriatric depression outcome. In press, 2002.

Cassidy F, Beyer J, Kuchibhatla M, Payne M, Krishnan R: Volumetric assessments of orbital frontal cortex in bipolar disorder. Submitted: Biological Psychiatry, 2002

{W:\20269\1201776us2\00579144.RTF }33

Taylor B, Youngblood M, Veith R, Kaufmann P, et al. Effects of antidepressant medication on depression and clinical outcomes in acute MI patients at increased psychosocial risk for adverse cardiac events. In progress

Charney DS, Reynolds DF, Lewis L, Lebowitz BD, Sunderland T, Alexopoulos GS, Blazer DG, Katz IR, et al: Depression and bipolar support alliance consensus statement on the unmet needs in diagnosis and treatment of mood disorders in late life. Submitted Archives Gen. Psychiatry.

Khan A, Khan S, Kolts R, Krishnan KRR, Brown WA: Heterogeneity of placebo response and drug-placebo differences in psychopharmacology clinical trials.

Taylor WD, MacFall JR, Payne ME, McQuoid DR, Steffens DC, Provenzale JM, Krishnan KRR: MRI Lesion Volumes in Late-Life depression.

Steffens DC, Taylor WD, Krishnan KRR. The Transition of Vascular Depression to Vascular Dementia: A progression of Subcortical Ischemic Disease.

Krishnan KRR. Drugs For Psychiatric Disorders. Submitted: The Medical Letter, 2003.

March JS, Silva SG, Compton S, De Veauh-Geiss J, Califf R, Krishnan R. Child and Adolescent Psychiatry Trials Network (CAPTN). In press, 2003.

In Press: Journals, cont'd.

Evans DL, Charney DS, Lewis L, Golden RN, Gorman JM, Krishnan KRR, Nemeroff CB, Bremner JD, Carney RM, Coyne JC, DeLong MR, Farasure-Smith N, Glassman AH, Gold PW, Grant I, Gwyther L, Insel T, Ironson G, Johnson RL, Kanner AM, Katon WJ, Kaufman PG, Keefe FJ, Ketter T, Laughren TP, Leserman J, Lyketsos CG, McDonald WM, McEwen BS, Miller AH, Musselman DL, O'Connor C, Petitto JM, Pollock BG, Robinson RG, Roose SP, Rowland J, Sheline Y, Sheps DS, Simon G, Spiegel D, Stunkard A, Sunderland T, Tibbits Jr. P, Valvo WJ. Depression and Bipolar Support Alliance Consensus Statement On The Diagnosis and Treatment Of Mood Disorders In The Medically Ill. Submitted: Journal of the American Medical Association, 2004.

Khan A, Kolts R, Krishnan KRR. Suicide Attempt Rates in Clinical Trials of SSRIs, Other Antidepressants, and Placebo: Analysis of FDA SBA Reports. In press, 2003.

Khan A, Kolts R, Krishnan KR, Brown WA. Does Psychotropic Drug Treatment Reduce Suicide Risk? Submitted: Archives General Psychiatry, 2003.

Taylor WD, McQuoid DR, Potter G, Steffens DC, Krishnan KRR. Late-life depression and performance on the verbal fluency test and the Benton visual retention test. Submitted: American Journal of Geriatric Psychiatry, 2003.

Kane JM, Alphas L, Green A, Islam Z, Krishnan R, Lindenmayer CBJP, Meltzer HY, Robinson DG. Two Year Comparison of Weight Gain and Outcomes In Patients at High Risk for Suicide: Clozapine versus Olanzapine. 2003.

Lieberman JA, Greenhouse J, Hamer R, Keller MB, Krishnan KR, Nemeroff CB, Sheehan DV, Thase ME: Consensus Guidelines. In press, 2003.

Krishnan KRR. Late-Life Depression. Submitted: Medicine, 2004.

Pohl KM, Bouix S, Wells WM, Demeo S, Shenton ME, Rex D, Krishnan RR, Pieper S, Kikinis R, Grimson WEL, Warfield SK. An Hierarchical Prior Model for Segmentation. Submitted: IEEE Transaction of Medical Imaging, April 2004.

Taylor WD, MacFall JR, Payne ME, McQuoid DR, Steffens DC, Provenzale JM, Krishnan KRR. Greater MRI Lesion Volumes in Elderly Depressed Subjects Than In Control Subjects. In press, Psychiatry Research: Neuroimaging, August 2004.

Steffens DC, Otey E, Alexopoulos GS, Buckholtz N, Butters MA, Cuthbert B, Ganguli M, Geda YE, Hendrie HC, Krishnan KRR, Kumar A, Lopez OL, Lyketsos CG, Mast BT, Morris JC, Norton MC, Peavy GM, Petersen RC, Reynolds CF, Salloway S, Welsh-Bohmer KA, Yesavage JA. Perspectives on Depression, Mild Cognitive Impairment, and Cognitive Decline. Submitted, Archives of General Psychiatry, July 2004.

In Press: Journals, cont'd.

Curtis LH, Maselink LE, Ostbye T, Hutchison S, Dans PE, Wright A, Krishnan RR, Schulman KA. Use of Atypical Antipsychotic Drugs by Children and Adolescents in the United States: A Period Prevalence Study. Submitted, Archives of Pediatrics and Adolescent Medicine, July 2004.

Taylor WD and Krishnan KRR. Subcortical Ischemic Depression: A Shift in Psychiatric Diagnostics. Submitted, Depression: Mind and Body, August 2004.

Lynch TR, Smoski MJ, Rosenthal MA, Cheavens JS, Lejuez C, Krishnan KRR. Attention and Performance of Depressive Adults under Distress Conditions. Submitted, Journal of Clinical and Experimental Neuropsychology, August 2004.

Silva SG, TADS Team, Baker C, Krishnan R. The Treatment for Adolescents with Depression Study (TADS); Demographic and Clinical Characteristics. Submitted, JAACAP, August 2004.

Suarez EC and Krishnan KRR. The Relation of Free Plasma Tryptophan to Severity of Depressive Symptoms, Hostility, Anger, And Aggression In A Nonpatient Sample Of Adult Men And Women. Submitted, Psychosomatic Medicine, July 2004.

Evans DL, Charney DS, Lewis L, Golden RN, Gorman JM, Krishnan KRR, Nemeroff CB, Bremner JD, Carney RM, Coyne JC, DeLong MR, Farasure-Smith N, Glassman AH, Gold PW, Grant I, Gwyther L, Ironson G, Johnson RL, Kanner AM, Katon WJ, Kaufman PG, Keefe FJ, Ketter T, Laughren TP, Leserman J, Lyketsos CG, McDonald WM, McEwen BS, Miller AH, Musselman DL, O'Connor C, et al: Mood Disorders in the Medically Ill: Scientific Review and Recommendations. Submitted, Biological Psychiatry, 2004.

Greenwood RS, Tupler LA, Whitt JK, Buu A, Dombeck CB, Harp AG, Payne ME, Eastwood JD, Krishnan KRR, MacFall JR. Brain Morphometry, T2 Hyperintensities, and IQ in Children with Neurofibromatosis Type 1 (NF1). Submitted, Archives of Neurology, January 2005.

Kaddurah-Daouk R, McEvoy J, Doraiswamy PM, Krishnan KR, Boros L, Matson WR, Bogdanov M, Beal MF, Daouk G, Kristal BS. Metabolomics in Health and Disease. Submitted, JAMA, January 2005.

Lynch TR, Smoski MJ, Cheavens JS, Rosenthal MZ, Krishnan KRR. Attentional Biases and Thought Suppression in Depressive Individuals. Submitted, Affective Attention and Emotion Regulation, January 2005.

MacFall JR, Taylor WD, Rex D, Pieper S, Payne ME, McQuoid DR, Steffens DC, Krishnan KRR. Lobar Distribution Of Lesion Volumes In Late-Life Depression: The BIRN Analysis. Submitted, Archives of General Psychiatry, February 2005.

Taylor CB, Youngblood ME, Veith RC, Carney RM, Burg MM, Kaufmann PG, Shuster J, Mellam T, Blumenthal JA, Krishnan R, Jaffe AS. Effects of Antidepressant Medication on Morbidity and Mortality in Depressed Post-MI Patients. Submitted: Psychopharmacology and SSRI, 2005.

Krishnan KRR. Treatment of Depression in the Medically Ill. Submitted: Journal of Clinical Psychopharmacology, 2005.

Greenwood RS, McPhail E, Eastwood JD, Kealey SM, MacFall JR, Tupler LA, Harp AG, Payne ME, Buu A, Krishnan KRR. Diffuse and Focal T2-weighted Hyperintensities in Neurofibromatosis Type 1(NF1). Submitted: Radiology, 2005.

Lynch TR, Smoski MJ, Rosenthal MZ, Cheavens JS, Lejuez C, Krishnan KRR. How do depressed participants perform under stress conditions? Submitted: Neuropsychopharmacology, 2005.

Smoski MJ, Lynch TR, Rosenthal MZ, Cheavens JS, Chapman AL, Krishnan KRR. Enhanced Learning from Negative Feedback in Depressive Adults. Submitted: Archives General Psychiatry, 2005.

Hannestad J, Taylor WD, McQuoid DR, Payne ME, Krishnan KRR, Steffens DC, MacFall JR. Negative Association Between White Matter Lesion Volume And Caudate Volume In Elderly With And Without Depression. Submitted: Biological Psychiatry, 2005.

Bae JN, MacFall JR, Krishnan KRR, Payne ME, Steffens DC, Taylor WD. Microstructural Changes in the Dorsolateral Prefrontal Cortex and Anterior Cingulate in Late-Life Depression. Submitted: Archives of General Psychiatry, 2005.

Beyer JL, Taylor L, Gersing K, Krishnan KRR. The Prevalence of HIV Infection in a General Psychiatric Outpatient Population. Submitted: , 2005.

Hybels CF, Steffens DC, McQuoid DR, Krishnan KRR. Residual symptoms in older patients treated for major depression. Submitted: *International Journal of Geriatric Psychiatry*, 2005.

Jiang W, Kuchibhatla M, Joynt K, Clary GL, Cuffe MS, Christopher EJ, Alexander JD, Califf RM, Krishnan RR, O'Connor CM. Relation Between Depressive Symptoms and Long-term Mortality in Chronic Heart Failure. Submitted: , 2005.

Tyring S, Gottlieb A, Papp K, Gordon K, Leonardi C, Wang A, Lalla D, Woolley M, Jahreis A, Zitnik R, Cella D, Krishnan R. Etanercept Improves Clinical Outcomes, Fatigue, and Symptoms of Depression in Subjects With Psoriasis: Results from a Double-Blind, Placebo-Controlled, Randomized Phase 3 Trial. Submitted: The Lancet, 2005.

Chapters:

1. Ellinwood EH Jr., Woody G, Krishnan KRR: Drug Abuse. In Psychiatry. (Eds.) J. Cavenar et al., J.B. Lippincott & Co., New York, pp 1-15, 1985.
2. Krishnan KRR, Nemeroff CB, Manepalli AN, France RD, Ritchie JC, Carroll BJ: Physiology of human HPA regulation in depression. In Biological Psychiatry. (Eds.) C. Shagass et al. Elsevier, New York, pp 808-810, 1986.
3. Krishnan KRR, Nemeroff CB: Peptides of the hypothalamic pituitary adrenal axis: Basic and clinical studies. In Biological Psychiatry (Eds.) C. Shagass et al, Elsevier, New York, pp 115-116, 1986.
4. Kilts CD, Bissette G, Krishnan KRR, Smith MA, Chappell P, Nemeroff CB: The preclinical and clinical neurobiology of corticotrophin releasing factor (CRF). In Hormones and Depression, (Eds.) V. Halbreich and R. Rose R. Raven Press , New York, 1986.
5. Krishnan KRR, Ritchie JC, Manepalli AN, France RD, Carroll BJ: What is the relationship between plasma cortisol and plasma ACTH in normal humans and depressed patients. In: HPA Physiology and Pathophysiology. (Eds.) A.F. Schatzberg, C.B.Nemeroff, Raven Press, New York, 1988.
6. Krishnan KRR, Ellinwood EH, Rayasam K: Tardive Dyskinesia: Structural changes in the brain. In Tardive Dyskinesia: Biological Mechanisms and Clinical Aspects. (Ed.) M.E. Wolf., The American Psychiatric Association Press, 1988.
7. France RD, Krishnan KRR, Houpt, JL: Overview. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
8. Krishnan KRR, France RD, Urban BJ: Systems Approach to Chronic Pain Syndromes. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
9. Krishnan KRR, France RD, Eriksson L, Ellinwood EH Jr. Neuroanatomy and Neurophysiology of Chronic Pain. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
10. Cain ST, Nemeroff CB, Banki CM, France RD, Krishnan KRR: Catecholamines and Indolamines: Role in Nociception and Chronic Pain. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
11. France RD, Krishnan KRR, Houpt JL, Maltbie AA: Personality and Chronic Pain. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
12. France RD, Krishnan KRR: Pain in Psychiatric Disorders. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
13. Krishnan KRR, France RD: Chronic Pain Syndromes of Idiopathic and Organic Origin. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.

14. Krishnan KRR, France RD, Davidson J: Depression as a Psychopathological Disorder in Chronic Pain. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
15. Krishnan KRR, McCann UD, France RD: Substance Abuse in Chronic Pain Patients. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
16. France RD, Krishnan KRR: Psychotropic Drugs in Chronic Pain. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
17. France RD, Krishnan KRR, Manepalli AN: Analgesics in Chronic Pain. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
18. France RD, Krishnan KRR: Management of Opioid Dependence. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
19. France RD, Krishnan KRR: Management of Cancer Pain. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
20. France RD, Krishnan KRR: Assessment of Chronic Pain. In: Chronic Pain. (Eds.) R.D.France RD, K.R.R. Krishnan KRR. American Psychiatric Press, Washington DC, 1988.
21. Krishnan KRR, Nemeroff CB, Carroll BJ: Hypercortisolemia and Mental Illness. In: The Control of the Hypothalamo-Pituitary-Adrenocortical Axis. (Ed.) F.C. Rose. International Universities Press, Inc., Madison, Conn., pp 419-435, 1989.
22. Krishnan KRR, Nemeroff CB, Carroll BJ. Hypercortisolemia and mental illness. In: The Control of the Hypothalamic-Pituitary-Adrenal Axis. (Ed.) F.C. Rose. International University Press, Inc. Madison, CT, pp 419-436, 1989.
23. France RD, Krishnan KRR: The systems approach to the assessment and management of chronic pain. In Chronic Pain: Vols. 1 & 2. International Universities Press, Madison CT, pp 181-214, 1990.
24. Krishnan KRR, Rayasam K, Carroll BJ: Dexamethasone Suppression Test in Schizoaffective Disorders. In: Affective and Schizoaffective Disorders: Similarities and Differences, (Eds.) A. Marneros, M.T. Tsuang. Springer Verlag, Heidelberg, pp 208-217, 1990.
25. Kamaraju L, Krishnan KRR. ACTH, Interferons and Interleukins. In: Progress in Psychiatry (Ed.) C.B.Nemeroff. American Psychiatric Press, Washington, DC, 1991.
26. Doraiswamy PM, Krishnan KRR and Nemeroff CB. Neuropeptides and neurotransmitters in Alzheimer's disease: Focus on Corticotropin-Releasing Factor. In: International Clinics in Endocrinology and Metabolism (Ed.) A. Grossman. Vol. 5:1, Bailliere Tindall Press, London, 1991.
27. McDonald WM, Krishnan KRR. Vasopressin. In: Neuropeptides in Psychiatric Disorders, (Ed.) C.B. Nemeroff. American Psychiatric Association Press, Washington, DC, 1991.
28. Doraiswamy PM, Krishnan KRR and Nemeroff CB. Neuropeptide and neurotransmitters in Alzheimer's disease: Focus on corticotropin-releasing factor. In: Psychoneuroendocrinology. (Ed.) A. Grossman, Bailliere's Clinical Endocrinology and Metabolism, Volume 5, pp 59-78, 1991.
29. Nemeroff CB and Krishnan KRR: Neuroendocrine alterations in psychiatric disorders. In: Comprehensive Textbook of Neuroendocrinology. (Ed.) C.B. Nemeroff, Telford Press, New York, 1991.

44. Byrum CE, Yi-Hsuan Kao, MacFall JR, Krishnan KRR: Magnetic Resonance Morphometry. In: *Methods in Biological Psychiatry Research*, (Eds.) Sumant Khanna, MS Keshavan. Tata McGraw-Hill, Inc. New Delhi, pp 41-52, 1995.
45. Rayasam K and Krishnan KRR. Treatment of Acute Mania in Geriatric Patients. In: *The Psychiatry of Old Age: An International Textbook*. (Eds.) M. Copeland, M.T. Abou-Saleh and D. Blazer. John Wiley & Sons, New York, 1995.
46. Krishnan KRR and MacFall JR: Basic Principles of Magnetic Resonance Imaging. In: *Brain Imaging in Clinical Psychiatry*, (Eds.) KRR Krishnan, PM Doraiswamy. Marcel Dekker, Inc. New York, Basel, Hong Kong, pp 1-12, 1997.
47. Gadde KM and Krishnan KRR. Management of side effects of monoamine oxidase inhibitors. In: *Practical Management of the Side Effects of Psychotropic Drugs*, (Eds) Balon R. Marcel Dekker, New York. Pp 67-83, 1999.
48. Gadde KM and Krishnan KRR. Monoamine oxidase inhibitors. In: *Treatment of Psychiatric Disorders: Psychopharmacology*, (Ed.) J. Ananth, Jaypee Brothers, New Delhi, 1999, pgs. 131-140.
49. Krishnan KRR: Monoamine oxidase inhibitors. In: Schatzberg AF, Nemeroff CB (ed): Textbook of Psychopharmacology, Second Edition. American Psychiatric Press, Inc., Washington, DC, pgs 239-249, 2000
50. Clary GL, Krishnan KRR: Treatment of mood disorders in the medically ill patient. In: Gabbard GO, Rush J (ed), Treatments of Psychiatric Disorders, Third Edition. APA Press, Washington, DC, pgs. 1389-1415, 2001.
51. Sutherland S, Krishnan KRR: The difficult to treatment anxiety disorder patient. In: Dewan M and Pies R, The Difficult to Treat Psychiatric Patient. American Psychiatric Press, Washington DC, pgs. 115-148, 2001.
52. Robinson RG, Krishnan KRR: Depression and the medically ill. In: Davis KL, Charney D, Coyle J, Nemeroff C (eds): *Neuropsychopharmacology. The Fifth Generation of Progress*. Lippincott Williams & Wilkins, pgs. 1179-1185, 2002
53. Taylor WD, Steffens DC, Krishnan KRR: Vascular depression: A New subtype of depressive disorder? In: Chiu E, Ames D, Katona C (eds), *Vascular Disease and Affective Disorders*. Martin Dunitz, Ltd., pgs. 149-160, 2002.
54. Steffens, DC, Krishnan KRR: Basal ganglia and mood disorders. In: Chiu E, Ames D, Katona C (eds), *Vascular Disease and Affective Disorders*. Martin Dunitz, Ltd., pgs. 171-188, 2002.
55. Steffens DC, Krishnan KRR: Laboratory testing and neuroimaging. Implications for psychiatric diagnosis and practice. In: Phillips KA, First MB, Pincus HA (eds), *Advancing DSM: Dilemmas in psychiatric diagnosis*. American Psychiatric Association Press, pgs. 85-103, 2002.
56. Taylor WD, Krishnan KRR: Affective Disorders: Imaging Studies. In: Soares JC and Gershon S (eds), Handbook of Medial Psychiatry, Marcel Deckker, Inc., pgs. 335-346, 2003.
57. Krishnan KRR: Monoamine oxidase inhibitors. In: Schatzberg AF, Nemeroff CB (eds), Textbook of Psychopharmacology, Third Edition. American Psychiatric Press, pgs 183 – 193, 2003.
58. Potter WZ, Padich RA, Rudorfer MV, Krishnan KRR: Tricyclics, Tetracyclics, and Monoamine Oxidase Inhibitors. Textbook of Mood Disorders. American Psychiatric Press, pgs 251-261, 2005.

In Press: Chapters

Gadde KM and Krishnan KRR. Endocrine imaging in depression. In: Laboratory Testing in Psychoneuroendocrinology, (Eds.)A.F. Rothschild, O. Wolkolitz. APA press, Washington, (in press).

O'Connor CM, Krishnan KRR: Depression and cardiac disease. In press—Trans-NIH Depression Chapter.

Krishnan KRR: Magnetic Resonance Imaging. In: Copeland J, Abou-Saleh M, Blazer D (eds), Principles and Practice of Geriatric Psychiatry, 2nd Edition. (in press)

Krishnan KRR: Functional MRI. In: Copeland J, Abou-Saleh M, Blazer D (eds), Principles and Practice of Geriatric Psychiatry, 2nd Edition. (in press)

Drevets WC, Gadde KM, Krishnan KRR: Neuroimaging studies of mood disorders. In: Charney DS, Nestler E, Bunney BS, Nemeroff C (eds), The Neurobiological Foundation of Mental Illness. (in press)

Taylor WD, Krishnan KRR: Structural brain investigations in affective disorders. In: Soares JC (ed), Brain Imaging in Affective Disorders. (in press).

Krishnan KRR: Monoamine oxidase inhibitors. In: Schatzberg AF, Nemeroff CB (eds), Textbook of Psychopharmacology, Third Edition. (in press)

Roose SP, Krishnan KRR: Depression comorbid with other illness. In: Late-Life Depression. (in press)

Potter WZ, Padich RA, Rudorfer MV, Krishnan KRR: Tricyclics, Tetracyclics, and Monoamine Oxidase Inhibitors. The American Psychiatric Publishing Textbook of Mood Disorders, Chapter 15. (in press)

Joynt KE, Krishnan KRR, O'Connor CM: The Physician's Guide to Depression and Bipolar Disorders: Cardiovascular Disease and Mood Disorders. In: Physician's Guide. (in press)

Krishnan KRR: Monoamine Oxidase Inhibitors. In: Essentials of Psychopharmacology. (in press)

Books:

1. France RD and Krishnan KRR. Eds. Chronic Pain. American Psychiatric Press, 1988.
2. Krishnan KRR, Steffens DC, Doraiswamy PM. Eds. Psychotropic Drug Interactions. MBL Communications, Inc.: New York, January 1996.
3. Krishnan KRR and Doraiswamy PM. Eds. Brain Imaging in Clinical Psychiatry. Marcel Dekker, Inc. New York, 1997.

Other:**a. Published Reviews:**

1. Krishnan, KRR. Major Depression. Dial Access: Psychiatry. Southern Medical Association, 1989.
2. Krishnan, KRR. Bipolar Disorder. Dial Access: Psychiatry. Southern Medical Association, 1989.
3. Krishnan, KRR. Mood Disorders: An Overview. Dial Access: Psychiatry. Southern Medical Association, 1989.
4. McDonald W, Krishnan KRR. Pharmacologic management of depression and agitation in the demented patients. Dial Access: Psychiatry. Southern Medical Association, 1989.
5. McDonald W, Krishnan KRR. The coexistence of depression with dementia. Dial Access: Psychiatry. Southern Medical Association, 1989.
6. Steffens DC, Krishnan KRR. The treatment of chronic depression: Current strategies and future directions. (Editorial Comment) The study of chronic depression: Has it come of age? Medscape Mental Health 2(6), 1997.
7. Kornstein SG, Krishnan RR. Achieving Remission In Depression: Managing Women and Men in the Primary Care Setting. Clinical Courier 21(34), November 2003.

b. Abstracts:

1. Krishnan KRR, France RD, Houpt JL: Family History Study of Chronic Pain. Proceedings of the 137th American Psychiatric Association Annual Meeting in Los Angeles, 1984.
2. France RD, Krishnan KRR, Houpt JL: Biological Markers of Depression in Chronic Pain. Proceedings of the 137th American Psychiatric Association Annual Meeting in Los Angeles, 1984.
3. Davidson JRT, Krishnan KRR, France RD: Neurovegetative Symptoms of Depression in Chronic Pain. Proceedings of the 137th American Psychiatric Association Annual Meeting in Los Angeles, 1984.
4. Guajardo C, Mackey W, Parish A, Krishnan KRR: Borderline Personality Disorder in Adolescents. Proceedings of the 137th American Psychiatric Association Annual Meeting in Los Angeles, 1984.
5. Krishnan KRR, France RD: Pain and Depression. Proceedings of the International Association for the Study of Pain. Published as supplement to Pain.
6. Krishnan KRR, France RD: The Relationship between Chronic Pain and Depression. Academy of Psychosomatic Medicine Meeting, Philadelphia, Pennsylvania, November 1984.
7. Carroll BJ, Krishnan KRR: HPA regulation and Psychopathology in Proceedings of the American College of Neuropsychopharmacology, December, 1984.

8. Krishnan KRR, France RD: A Systems Approach to the Study of Chronic Pain and Depression. Academy of Psychosomatic Medicine Meeting, San Francisco, November 1985.
9. Krishnan KRR, Heyman A, Zung WKK: Alzheimer's Dementia and Depression. Academy of Psychosomatic Medicine Meeting, San Francisco CA, November 1985.
10. Krishnan KRR: HPA dysregulation in depression. Proceedings of the Round Table Meeting on Steroids, Institute Scientifique, Roussell - UCLAF, 1985.
11. Krishnan KRR, France RD, Snipes MT: Family history study of chronic pain. 5th Annual Meeting of the American Pain Society, Dallas, Texas, October 17-29, 1985.
12. Krishnan KRR, Ritchie JC, Manepalli AN, France RD, Nemeroff CB, Carroll BJ: What is the Relationship Between ACTH and Cortisol in Normals and Depressed Patients. American College of Neuropsychopharmacology 1985 Annual Meeting, Maui, Hawaii, December 9-13, 1985.
13. France RD, Krishnan KRR, Houpt JL: Clinical Characteristics of Depression in Chronic Pain. American Psychosomatic Society Meeting, March 28-31, 1985.
14. France RD, Urban BJ, Krishnan KRR, Nemeroff CB, Kilts CD: Monoamine Metabolites in Chronic Pain and Depression. Abstracts of IVth World Congress of Biological Psychiatry, 229.4:177; 1985.
15. France RD, Krishnan KRR, Pelton S: Adrenocortical function in pain and depression. Vth Annual Meeting of the American Pain Society, Dallas, Texas, October 17-20, 1985.
16. Urban BJ, France RD, Krishnan KRR, Nemeroff CB, Bissette G, Banki C: CRF levels in chronic pain patients as compared to normal controls and patients with major depression. Vth Annual Meeting of the American Pain Society, Dallas, Texas, October 17-20, 1985.
17. Krishnan KRR, Carroll BJ, Manepalli AN, Ritchie JC, Nemeroff CB: Physiology of Human HPA Regulation in Depression. Abstracts of IVth World Congress of Biological Psychiatry, 304.3:230,1985.
18. Krishnan KRR: Peptides in the Hypothalamic-Pituitary Adrenal Axis: Basic and Clinical Studies. Abstracts of IVth World Congress of Biological Psychiatry, 229.4:177; 1985.
19. Krishnan KRR, Carroll BJ, Manepalli AN, Ritchie JC and Nemeroff CB. ACTH and cortisol secretion in depression. Proc. World Psychiatric Association Regional Symposium on Affective Disorders, Athens, Greece, 25. 1985.
20. Krishnan KRR, Manepalli AN, Ritchie JC, Rayasam K, Rivier J, Vale W, Thorner MO, Nemeroff CB: GRH Stimulation Test in Depression. American Psychiatric Association's Annual Meeting, Washington, D.C., May 10-16, 1986.
21. Nemeroff CB, Krishnan KRR, Owens MJ, Bissette G, Manepalli AN, Ritchie JC, Rayasam K, Daughtry G, Kalin NH, Rivier JE, Vale WW and Thorner MO: Growth hormone-releasing factor (GRF): endocrine and cerebrospinal fluid studies. Soc Neurosci Abst. 12:566, 1986.
22. Krishnan KRR, Ritchie JC, Manepalli AN, France RD, Nemeroff CB, Carroll BJ: ACTH and Cortisol Dissociation in Depression. American Psychiatric Association's Annual Meeting, Washington, DC, May 10-16, 1986.
23. Nemeroff CB, Krishnan KRR, Owens MJ, Bissette G, Manepalli AN, Ritchie JC, Rayasam K, Daughtry G, Kalin NH, Rivier JE, Vale WW, Thorner MO. Growth hormone releasing factor: Endocrine and CSF studies. Society of Neuroscience Abstract 12:566, 1986.

24. Chappell PB, Smith MA, Ritchie JC, Krishnan KRR, Reed, D, Rivier J, Vale WW, Nemeroff CB. Effects of corticotropin-releasing factor on plasma ACTH and cortisol concentrations in schizophrenia. Society of Neuroscience Abstract 12:1443, 1986.
25. Knight DL, Krishnan KRR, Blazer DG, Nemeroff CB. Tritiated imipramine binding to platelets is markedly reduced in elderly depressed patients. Society of Neuroscience Abstract 12:1251, 1986.
26. Belkin BM, Ritchie J, Rayasam K, Krishnan KRR, Kegelmeyer AE, Nemeroff CB, Carroll BJ. Plasma dexamethasone concentration and the DST. Society of Neuroscience Abstract 12:606, 1986.
27. Krishnan KRR: GHRF stimulation test in depression. Winter Neuropeptides Conference, Breckenridge, Colorado, 1986.
28. Coffey, CE, Hinkle P, Weiner RD, Nemeroff CB, Krishnan KRR, Varia I, Drayer BP: ECT in subcortical Arteriosclerotic Encephalopathy. American Psychiatric Association's Annual Meeting, Washington, DC, May 10-16, 1986.
29. Weiner RD, Coffey CE, Ritchie JC, Davidson JRT, Krishnan KRR: Neuroendocrine Responses to ECT. American Psychiatric Association's Annual Meeting, Washington, DC, May 10-16, 1986.
30. France RD, Krishnan KRR: Dexamethasone suppression test as a biological marker in chronic pain. Psychiatry Digest 2:22-23, 1986.
31. Laszlo J, Ellinwood EH, Jr, Gockerman J, Goldstein D, Krishnan KRR, Hood L, Tso CY: Elevation in corticosteroids after gamma interferon therapy. 14th International Cancer Congress. Budapest, Hungary, August 21-27, 1986.
32. France RD, Krishnan KRR, Goli V: TRH stimulation test in chronic pain. Vth Annual Meeting of the American Pain Society, Dallas, Texas, 1986.
33. Urban BJ, France RD, Krishnan KRR, Pelton S, Kilts CD: Monoamine metabolites and beta endorphin in chronic pain patients. VIth Annual Meeting of the American Pain Society, Washington, D.C., November 6-11, 1986.
34. France RD, Urban FJ, Krishnan KRR, Pelton S: CSF monoamine metabolites in pain patients with and without depression. 33rd Annual Meeting of the Academy of Psychosomatic Medicine, New York, NY, November 13-16, 1986.
35. Krishnan, KRR: Immune System - The third link between the brain (Mind) and the Body. 33rd Annual Meeting of the Academy of Psychosomatic Medicine, New York, NY, November 13-16, 1986.
36. Knight DL, Krishnan KRR, Blazer DG and Nemeroff CB: Tritiated imipramine binding to platelets is markedly reduced in elderly depressed patients. Society for Neuroscience, 12:12251, 1986.
37. Chappell PB, Smith MA, Ritchie JC, Krishnan KRR, Reed D, Rivier J, Vale WW, Nemeroff CB. Effects of Corticotropin-Releasing Factor on Plasma ACTH and Cortisol Concentrations in Schizophrenia. Society for Neuroscience, 1986.
38. Krishnan KRR, Rayasam K, Ellinwood EH, Heinz R: MRI in Tardive Dyskinesia. American College of Neuropsychopharmacology, Washington, DC, December 1986.
39. Krishnan KRR, Manepalli A, Rayasam K, Melville ML, Daughtry G, Rivier J, Vale W, Thorner MD, Nemeroff CB. Somatotroph response to GHRF in depression. Proceedings CINP 13th Annual Meeting 206, San Juan, Puerto Rico 1986.

40. Krishnan KRR, Manepalli AN, Ritchie JC, Lee S, Carroll BJ. Fast feedback regulation of ACTH by cortisol in man. Proceedings of 25th Annual Meeting of the American College of Neuropsychopharmacology, Washington, DC 1986.
41. Krishnan KRR, Nemeroff CB, Manepalli AN, Venkatraman S, Ritchie JC, Carroll BJ. Patterns of hormone secretion in normal volunteer and psychiatric patients. *Neuroendocrinology Lett* 9:155, 1987.
42. Slotkin TA, Barners GA, Blazer DG, Knight DL, Krishnan KRR, Whitmore WL and Nemeroff CB. Biogenic amine uptake and [3H] imipramine binding in platelets of depressed elderly patients: evidence for biological differences from depression in a younger cohort. Sixth Int. Catecholamine Symposium, Jerusalem, Israel, 131, 1987.
43. Krishnan KRR, Goli V, Ellinwood E, France RD, Nemeroff CB, Blazer D. Leukoencephalopathy in patients with major depression. Proceedings of the Society of Biological Psychiatry 43rd Annual Meeting 378, 1988.
44. Krishnan KRR, Venkatraman S, Ritchie JC, Manepalli AN, Wilson WH, Carroll BJ. Role of serotonin in the HPA axis escape from dexamethasone suppression. Proceedings of the Society of Biological Psychiatry 43rd Annual Meeting, p 29, 1988.
45. Krishnan KRR, Nikaido A, Putcha V, Heatherly D, Ellinwood EH Jr. Computerized cognitive neuromotor testing in depression. Proceedings of the Society of Biological Psychiatry 43rd Annual Meeting, p 139, 1988.
46. Krishnan KRR, Goli V, Ellinwood EH, France R, Nemeroff CB, Blazer D. Leukoencephalopathy in patients with major depression. *Psychopharmacology* 96, S:143, 1988.
47. Rayasam K, Heinz R, Krishnan KRR, Ellinwood EH, Wingfield R, Irigaray P. MRI in patients with tardive dyskinesia. *Psychopharmacology* S:96 and S:255, 1988.
48. Nemeroff CB, Krishnan KRR, Knight DL, Benjamin D and Meyerson LR. Increased plasma concentrations of α -acid glycoprotein, an endogenous modulator of the platelet [3H]-imipramine/5HT transport complex in patients with major depress. *Soc Neurosci Abst* 14:372, 1988.
49. Doraiswamy PM, Figiel GS, Husain M, Boyko OB, Krishnan KRR. Aging of the Human Brain: In-Vivo Assessment with 1.5 T MRI. Mt. Castle 1st Annual Bristol-Myers Symposium on Neuroscience Research, Baltimore, MD. October 11, 1989.
50. Knight DL, Meyerson LR, Benjamin D, Krishnan KRR, Blazer DG and Nemeroff CB. Increased plasma α -acid glycoprotein in depression: biologic, clinical and demographic correlations. *Soc. Neurosci. Abst.* 15, 1989.
51. Ritchie JC, Scotch RL, Walker JT, Krishnan KRR, Reed DA and Nemeroff CB. Human growth hormone response to ovine corticotropin-releasing factor. *Soc Neurosci Abst.* 15, 1989.
52. Doraiswamy PM, Figiel GS, Husain M, Boyko OB, Krishnan KRR. Aging of the Brain. Part 2: Findings on Axial MR Images. Mt. Castle 1st Annual Bristol-Myers Symposium on Neuroscience Research, Baltimore, MD. October 11, 1989.
53. Krishnan KRR, Doraiswamy PM, Boyko OB, Figiel GS, Rockwell WJK, Ellinwood EH. MRI of the pituitary gland in patients with eating disorders. American College of Neuropsychopharmacology, Maui, Hawaii, December 1989.
54. Krishnan KRR, Dunnick NR, Nemeroff CB: Computerized tomography of the adrenal gland. American College of Neuropsychopharmacology, Maui, Hawaii, December 1989.

55. Doraiswamy PM, Figiel GS, Husain MM, Boyko OB, Ellinwood EH, Krishnan KRR. Cerebral white matter changes in normal aging. American Association for Geriatric Psychiatry, 3rd Annual meeting, San Diego, February 18, 1990.
56. Husain MM, Doraiswamy PM, Figiel GS, Boyko OB, Krishnan KRR and Breitner JC. Leukoencephalopathy in late-onset schizophrenia. 3rd Annual Meeting, American Association for Geriatric Psychiatry, San Diego, February 18, 1990.
57. Figiel GS, Krishnan KRR, Doraiswamy PM, Roa VP, Husain MM, Boyko OB. Subcortical hyperintensities in late onset depression. 3rd Annual Meeting of American Association for Geriatric Psychiatry, San Diego, February 18, 1990.
58. McDonald W, Krishnan KRR, Husain MM, Doraiswamy PM, Blazer DG. Subcortical hyperintensities in late onset mania. 3rd Annual Meeting of the American Association for Geriatric Psychiatry, February 18, San Diego, 1990.
59. Lurie SN, Doraiswamy PM, Husain MM, Figiel GS, Boyko OB, Ellinwood EH and Krishnan KRR. *in vivo* assessment of pituitary gland volume with 1.5 Tesla MRI: Effects of age and sex. Annual Meeting of the Society for Biological Psychiatry, New York, May 12, 1990.
60. Figiel GS, Krishnan KRR, Doraiswamy PM, Boyko OB, and Nemeroff CB. Subcortical structural changes in late age onset depression. Annual Meeting of the Society for Biological Psychiatry, New York, May 14, 1990
61. Doraiswamy PM, Lurie SN, Husain MM, Figiel GS, Boyko OB, and Krishnan KRR. Pituitary enlargement in depression: Society for Biological Psychiatry, New York, May 13, 1990.
62. Husain MM, Doraiswamy PM, Figiel GS, Knight DL, Boyko OB, Nemeroff CB, and Krishnan KRR. Platelet-tritiated imipramine binding and leukoencephalopathy in geriatric depression. Society of Biological Psychiatry, New York, May 12, 1990.
63. Lammers C-H, Doraiswamy PM, Husain MM, Figiel GS, Boyko OB, Nemeroff CB, and Krishnan KRR. MRI of the corpus callosum and septum pellucidum in depression. Society for Biological Psychiatry, New York, May 13, 1990.
64. Doraiswamy PM, Figiel GS, Husain MM, Lurie SN, Boyko OB, Ellinwood EH, Krishnan KRR. Subcortical changes in normal aging. Society for Biological Psychiatry, New York, May 14, 1990.
65. McDonald W, Krishnan KRR, Doraiswamy PM, Blazer DG. Subcortical hyperintensities in elderly subjects with mania. Society for Biological Psychiatry, New York, May 14, 1990.
66. Black K, Husain MM, Doraiswamy PM, Rockwell WJK, Ellinwood EH, Krishnan KRR. Brain morphology in eating disorders. Society for Biological Psychiatry, New York, May 12, 1990.
67. Doraiswamy PM, Figiel GS, Husain MM, Boyko OB, and Krishnan KRR. Subcortical changes in normals. American Geriatrics Society, 47th Annual Meeting, Atlanta, May 18, 1990.
68. Husain MM, Doraiswamy PM, Figiel GS, Boyko OB, Krishnan KRR, Breitner JC. Subcortical hyperintensities in late-onset psychosis. American Geriatrics Society, Atlanta, May 18, 1990.
69. Lurie SN, Doraiswamy PM, Figiel GS, Husain MM, Boyko OB, Ellinwood EH, Krishnan KRR. *in vivo* assessment of pituitary volume with MRI: Effects of age and sex. American Geriatrics Society, Atlanta, May 18, 1990.

70. Doraiswamy PM, Shah SA, Figiel GS, Husain MM, McDonald WM, Boyko OB, Ellinwood EH, Nemeroff CB, Krishnan KRR. Hippocampal pathology in major depression. American Psychiatric Association, New York, May 14, 1990.
71. McDonald WM, Husain MM, Doraiswamy PM, Figiel GS, Boyko OB, Ellinwood EH, Nemeroff CB, Krishnan KRR. Diminished caudate volumes in depression. American Psychiatric Association, May 14, 1990.
72. Husain MM, McDonald WM, Doraiswamy PM, Figiel GS, Boyko OB, Ellinwood EH, Nemeroff CB, Krishnan KRR. *in vivo* assessment of putamen volume in depression. American Psychiatric Association, New York, May 14, 1990.
73. Doraiswamy PM, Husain MM, Figiel GS, Shah SA, Boyko OB, Ellinwood EH, Jr., Krishnan KRR. Magnetic resonance imaging of the human corpus callosum: sex differences and normal aging. 115th Annual Meeting of the American Neurological Association, October 14-17, 1990, Atlanta, GA. Ann Neurol, 28(2)259, 1990.
74. Knight DL, Krishnan KRR, Nemeroff CB. Lack of significant monthly variation in platelet (^3H)-imipramine binding kinetics in controls or patients with major depression. Society for Neuroscience annual meeting in New Orleans, November 1991.
75. Nemeroff CB, Knight DL, Krishnan KRR. Reduced platelet (^3H)-imipramine binding in major depression. Society for Neuroscience annual meeting in New Orleans, November 1991.
76. Krishnan KRR, Slotkin TA, Nemeroff CB. (^3H)-imipramine binding in platelets of never-medicated depressed patients. Society for Neuroscience annual meeting in New Orleans, November 1991.
77. Krishnan KRR, Blazer DG, Knight DL, Benjamin D, Meyerson LR, Nemeroff CB. Putative endogenous inhibitor of the tritiated imipramine binding site in depressed patients. Biol. Psychiat. 29, 11 Suppl., 708S, 1991.
78. Nemeroff CB, Krishnan KRR, Knight DL, Freeman H. [^3H]-Imipramine binding as a predictor of treatment response. Proc. 31st Ann meeting of the ACNP, p.66, 1992.
79. MacFall JR, Charles HC, Krishnan KRR, Upchurch L, Early B, Parashos I. Relative accuracy and of regional MRI brain volumes. Presented at the 11th annual meeting, SMRM, Berlin, 1:4209, 1992.
80. Boyko OB, Charles HC, Krishnan KRR. 1992. 78th Annual Meeting of the Radiological Society of N. America, Chicago. Radiology: V185, S (Nov), p 125, 1992.
81. Charles HC, Lazeyras F, Krishnan KRR, Boyko O, Payne M, Moore D. Brain choline in depression: *in vivo* detection of potential pharmacodynamic effects of antidepressant therapy using hydrogen localized spectroscopy. Presented at the 11th annual meeting Society of Magnetic Resonance in Medicine, International Congress Center, Berlin, Germany, 1:757, August 1992.
82. Krishnan KRR, Tupler LA, McDonald WM: 1993. Magnetic resonance imaging in affective disorder. Proceedings of Continuing Medical Education Programme on Affective Disorders, Medical Council of India, King George's Medical College, Lucknow, India. p. 71-83, January 1993.
83. Charles HC, Lazeyras F, Boyko O, Allen A, Krishnan KRR. Elevated choline in depression. Annual Meeting Society of Biological Psychiatry, 1993.
84. Krishnan KRR, Doraiswamy PM, McDonald WM, Axelson DA, Boyko OB, Nemeroff CB, Dunnick NR. Pituitary size in depression. Proc. 146th Ann. meeting, Amer. Psychiat. Assn; 122, 1993.

85. Escalona PR, Early B, McDonald WM, Nemeroff CB, Krishnan, KRR. Reduction of cerebellar volume in depression. Proc. 146th Ann. meeting, Amer. Psychiat. Assn. NR187, pp. 106, 1993.
86. Charles HC, Boyko O, Lazeyras F, Tupler L, Krishnan KRR. Metabolic brain mapping in Alzheimer's disease using high resolution proton spectroscopy. 12th annual meeting, SMRM, New York, 1993.
87. Musselman DL, Porter MR, Ninan PT, Krishnan KRR, Davidson JR, Nemeroff CB. Thyroid autoantibodies in patients with mood and anxiety disorders. Annual meeting of Society for Neuroscience, San Diego, 1995.
88. Krishnan KRR. Magnetic Resonance Imaging and Magnetic Resonance Spectroscopy in Affective Disorders. World Regional Congress of Biological Psychiatry, XIII Latin-American Symposium of Biological Psychiatry, Sao Paulo Brazil, May 1995.
89. Linden RD, Newhouse P, Krishnan KRR. SSRIs in the depressed elderly: A double-blind comparison of sertraline and fluoxetine in depressed geriatric outpatients. Proc. 148th Ann. meeting, Amer. Psychiat. Assn. Miami, May 1995.
90. Musselman DL, Porter MR, Ninan PT, Krishnan KRR, Davidson JR, Nemeroff CB. Thyroid autoantibodies in patients with mood and anxiety disorders. Society for Neuroscience Annual Meeting, San Diego, 1995.
91. Krishnan KRR, Hays JD, Tupler LA. Clinical and phenomenological comparisons of late-onset and early-onset depression. Focus on Depression and Anxiety. The Netherlands 1995.
92. Greenwald BS, Kramer-Ginsberg E, Jian Hu, Ashtari M, Houwei Wu, Aupperle P, Krishnan KRR, Bogerts B. MRI volumetric measurement of frontal lobe in geriatric depression. American College of Neuropsychopharmacology 33rd Annual Meeting, San Juan Puerto Rico, December 1995.
93. Doraiswamy PM, Tupler LA and Krishnan KRR. Neuroleptic treatment and caudate volume. American Psychiatric Association Annual Meeting, Miami, May 1995.
94. Tupler LA, Krishnan KRR, Ritchie, JR JC, McDonald WM, Knight DL, Nemeroff CB and Carroll BJ. Cognitive Impairment in elderly depressed individuals with APOE₄. Society of Biological Psychiatry Annual Convention, New York, p. 659, May 1996.
95. Gelenbe G, Feng Y, Krishnan KRR. Neural network methods for volumetric Magnetic Resonance Imaging of the human brain. Proceedings of the IEEE, 84(10): 1488-1496, 1996.
96. Musselman DL, Porter MF, Ninan PF, Knight BT, Krishnan KRR, Davidson JRT, Nemeroff CB. Prevalence of thyroid auto antibodies in psychiatric disorders. Poster presented at 35th Annual Meeting, ACNP, Puerto Rico, Abstracts p. 236, December 9, 1996.
97. Krishnan KRR. Late life depression: Clinical neuroimaging and Apo-E alleles. ACNP 1996 Annual Meeting, San Juan, Puerto Rico, December 9-13, 1996.
98. Krishnan KRR, Gonzalez, M, Snyderman T, Colket J, Arias R, Jiang J, O'Connor C... Depression in Coronary Artery Disease. ACNP1996 Annual Meeting, San Juan, Puerto Rico, December 9-13, 1996.
98. Krishnan KRR, Parsey RV. T2 signal intensities in Alzheimer's Disease. American Psychiatric Association annual meeting, San Diego, May 1997.
99. Krishnan KRR, Greenwald BS, Kramer-Ginsberg E, Ashtari M, Kremen N. Neuroanatomical localization of magnetic resonance hyperintensities of geriatric depression. . American Psychiatric Association annual meeting, San Diego, May 1997.

100. Krishnan KRR, Greenwald BS, Kramer-Ginsberg E. Neuropsychological functioning and MRI signal hyperintensities in geriatric depression. . American Psychiatric Association annual meeting, San Diego, May 1997.
101. Kim DK, Kim SW, Paik CH, Byun HS, Kim SP, Krishnan KRR, Carroll BJ. Candidate neuroanatomic substrates underlying delusional thought disorder in old-aged depression. Society for Neuroscience 27th annual meeting, New Orleans, October 1997.
102. Greenwood RS, Said SM, Yeh TL, El-Fatraty MA, Tupler LA, Krishnan KRR. Changes in brain volume in children with neurofibromatosis 1 (NF1). Child Neurology Society 26th Annual meeting, Phoenix, November 1997.
103. Doraiswamy PM, Barboriak D, Smith J, Krishnan KR, Vidyarthi S, Charles HC: MR spectroscopy of the frontal cortex: Effect of age. Amer. College Neuropsychopharm, San Juan, 1998.
104. Doraiswamy PM, Krishnan KR, Clary C: Clinical and treatment response characteristics of vascular and nonvascular depression. CINP, Glasgow, 1998.
105. Doraiswamy PM, Krishnan KR, Clary C: The efficacy and safety of sertraline in vascular depression. Amer. Psychiatric Assoc., Toronto, 1998.
106. Tabrizi S, Doraiswamy PM, Krishnan KR, Fortner M, Patel S: Gender, estrogen and Apo E effects on cognition. Amer Assoc. Geriatric Psychiatry, San Diego, 1998.
107. Pitchumoni S, Doraiswamy PM, Charles C, Barboriak D, Krishnan KR: Apo E genotype and frontal lobe metabolism in elderly subjects. Amer Assoc. Geriatric Psychiatry, Sand Diego, 1998.
108. Doraiswamy PM, Barboriak D, Charles HC, Krishnan KR, Pitchumoni S: Hippocampal sulcal remnants: Prevalence and possible clinical significance. Amer Assoc. Geriatric Psychiatry, San Diego, 1998.
109. Doraiswamy, PM MacFall J, Krishnan KR, O'Connor C, Benaur M, Lewandowsky M: MR assessment of cerebral blood flow in elderly cardiac patients with and without depression. Amer Assoc. Geriatric Psychiatry, San Diego, 1998.
110. Baldewicz TT, Babyak M, Khatri P, Moore K, Napolitano M, Waugh R, Krishnan R, Blumenthal JA. Attendance and adherence to an exercise intervention study and psychosocial predictors of change in depressed mood. American Psychosomatic Conference, March, 1999.
111. Steffens DC, Doraiswamy PM, McQuoid DR, Krishnan KRR: Bupropion SR in the naturalistic treatment of major depression in elderly patients with and without medical comorbidity. AAGP 1999.
112. Krishnan KRR, Doraiswamy M, Messina J, Veach J: Rivastigmine slows stage specific global deterioration in Alzheimer's disease. American Geriatric Society, May 1999.
113. Krishnan KRR, Veach J, Doraiswamy PM: Rivastigmine slows stage-specific global deterioration in Alzheimer's disease. American Acad Neurology, 1999.
114. Krishnan KR, Charles HC, Doraiswamy PM, Mintzer J, Weisler R, Rogers SA: A double blind placebo controlled trial of the effects of donepezil on N-acetylaspartate and myoinositol levels in Alzheimer's disease. PET-99, Copenhagen, 1999.
115. Krishnan KR, Doraiswamy PM, Anand R: Rivastigmine in the treatment of moderately severe dementia. Amer. Medical Director Assoc., Orlando, 1999.

116. Doraiswamy PM, Vidyarthi S, Pitchumoni S, Barboriak D, Krishnan KR, Charles HC: MRS markers of neuro-degeneration. Amer. Assoc. Geriatric Psychiatry, New Orleans, 1999.
117. Doraiswamy PM, Krishnan KR, Clary C: A comparison of the cognitive effects of sertraline, fluoxetine and nortriptyline in geriatric depression. Alzheimer Therapeutics, Stockholm, 2000.
118. Schneider L, Clary C, Finkel S, Krishnan KR, Doraiswamy PM: Placebo controlled trial of sertraline in geriatric depression. Amer. Psychiatric Assoc., Chicago, 2000.
119. Doraiswamy PM, Krishnan KR, Clary C: Does antidepressant therapy improve cognition? Amer. Psychiatric Assoc, Chicago, 2000.
120. Ahearn EP, Spear MC, Steffens DC, Van Meter S, Cassidy F, Chen YT, Provenzale J, Weisler R, Krishnan R: Investigation of notch 3 as a candidate gene for bipolar disorder using brain hyperintensities as an endophenotype. Annual Clinical Genetic Meeting, Miami, 2001.
121. Ahearn EP, Spear MC, Steffens DC, VanMeter S, Cassidy F, Chen YT, Provenzale J, Weisler R, Krishnan R: Investigation of notch 3 as a candidate gene for bipolar disorder using brain hyperintensities as an endophenotype. European Journal of Human Genetics 9: 364 (Abstract)
122. Serebruany V, Glassman A, Malinin A, Krishnan R, Finkel M, Nemeroff C, Gurbel P, Clary C, Harrison W, O'Connor C: Effects of Zoloft on platelet/endothelial biomarkers in depressed patients after acute coronary events: Sertraline antidepressant heart attack randomized trial (SADHART) platelet substudy). American College of Cardiology, 2002.
123. Krishnan KRR, Kramer MS: Substance P (NK-1 receptor) antagonists in major depression. Biol Psychiatry 51(8S): 155S, 2002.
124. Young F, Potkin SG, Alphs L, Krishnan R, et al: Predicting suicidal risk in high risk schizophrenic and schizoaffective patients. CINP Congress Meeting June 23-27. International Journal of Psychopharmacology 5(Suppl. 1): S77, 2002.
125. Young F, Meltzer, Alphs L, Anand R, Green A, Potkin S, Kane R, Krishnan R, et al: the InterSePT study: reduced suicidal behavior in schizophrenic clozapine treated patients. CINP Congress Meeting June 23-27. International Journal of Psychopharmacology 5(Suppl. 1): S77, 2002.
126. Rajkowska G, Miguel-Hidalgo JJ, Jiang J, Nizigiye J, et al: Depression in elderly is associated with blood vessels pathology in lateral orbitofrontal cortex. SOBP, May 2003.
127. Payne V, Beyer J, Cassidy F, Young MM, Krishnan R, et al: Association of Medical Factors to MRI Hyperintensities in Bipolar Disorder. APA 2003.
128. Lee SH, Payne ME, Steffens DC, McQuoid DR, Lai TJ, Provenzale JM, Krishnan KRR: Subcortical Lesion Severity and Orbitofrontal Cortex Volume in Geriatric Depression. Biol Psychiatry , 2003.
129. Khan A, Khan SRF, Kolts R, Krishnan KRR, Brown WA: Placebo Response And Drug Placebo Differences In Different Psychiatric Conditions. Journal of the American Medical Association, 2003.
130. Davidson JRT, Watkins L, Owens M, Dube E, Krulewicz S, Connor K, Zhang W, Abraham K, Krishnan R, Nemeroff C: Effects of Paroxetine and Venlafaxine-XR on Heart Rate Variability in Depression and the Role of Norepinephrine Transport Inhibition. ACNP Meeting 2003.

131. Curtis LH, Masselink L, Ostbye T, Hutchison S, Krishnan R, Schulman K: Use of Atypical Antipsychotic Drugs by Children and Adolescents in the United States: A Retrospective Cohort Study. *AcademyHealth*, 2003.
132. Young AJ, Beyer JL, Kuchibhatla M, Cassidy F, Krishnan KRR: Clinical and Demographic Correlates of Suicidal Ideation in Older Patients with Bipolar Disorder. *AAGP annual conference*, 2004.
133. Rajkowska G, Dwyer GO, Dubey P, Shao Q, Stuckey J, Nithuairisg S, Miguel-Hidalgo JJ, Stockmeier C, Krishnan R. Age-Dependent Cellular Changes In The Prefrontal Cortex In PostMortem Tissue From Depressed Subjects.
134. Doty TJ, Payne ME, Steffens DC, Beyer JL, Krishnan KRR, LaBar KS. Age-Dependent Reductions of Amygdala Volume in Bipolar Disorder. *2004 Cognitive Neuroscience Society Conference*, April 2004.
135. Cella D, Krishnan R, Woolley JM, Lalla D, Zitnik R. The Effect of Etanercept Therapy on Fatigue in Patients with Moderate to Severe Psoriasis. *American Academy of Dermatology*, 2004.
136. Krishnan R, Lalla D, Woolley JM, Zitnik R. Etanercept Improves Symptoms of Depression in Patients with Moderate to Severe Psoriasis. *63rd Annual Meeting Poster Exhibits*.
137. Cella D, Krishnan R, Woolley JM, Lalla D, Zitnik R. The Effect of Etanercept Therapy on Fatigue in Patients with Moderate to Severe Psoriasis.
138. Krishnan R, Lalla D, Woolley JM, Zitnik R, Amgen Inc. Etanercept Improves Symptoms Of Depression In Patients With Moderate To Severe Psoriasis. *Supplement to the Journal of the American Association of Dermatology*. Volume 52, Number 3, Page 184. March 2005.
139. Cella D, Evanston Northwestern Healthcare, Evanston IL, Krishnan R, Woolley JM, Lalla D, Amgen Inc. The Effect of Etanercept Therapy on Fatigue in Patients with Moderate to Severe Psoriasis. *Supplement to the Journal of the American Association of Dermatology*. Volume 52, Number 3, Page 197. March 2005.
140. Smith PJ, Blumenthal JA, Babyak MA, Georgiades A, Sherwood A, Sketch MH, Krishnan RR, Keeler AE, Watkins LL. Depression and Anxiety as Predictors of Ventricular Tachycardia Among Post-MI Patients. *APS Conference*, 2005.

Monoamine Reuptake and NMDA Antagonist Profile of Milnacipran: A Comparison to Duloxetine

Srinivas G. Rao

Cypress Bioscience, San Diego CA USA

Introduction

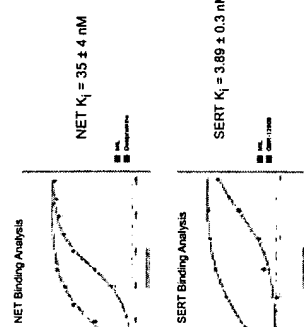
Milnacipran (MIL) is a norepinephrine(NE)-serotonin(5-HT) reuptake inhibitor (NSRI) marketed as an antidepressant in Japan and Europe. Previous studies performed by Jastreboff et al. (1995) and Pierre-Fabre et al. (1995) demonstrated that MIL preferentially blocks the reuptake of NE over that of 5-HT (Moret, Chavaron et al. 1985), a pattern opposite to that seen by 5-HT-NE reuptake inhibitors (SNRI) antidepressants, such as venlafaxine and duloxetine (DUL) (Kasamo, Blier et al. 1996; Roseboom and Kalin 2000; Bymaster, Dreshfield-Armad et al. 2001). Other studies suggest that MIL is also a low-affinity N-methyl-D-aspartate (NMDA) antagonist (Shuto, Takada et al. 1995). These properties are similar to those of some tricyclic antidepressants (TCAs), particularly amitriptyline and its major metabolite, nortriptyline (Cai and McCaslin 1992; Eisenach and Gebhart 1995). However, MIL is nontoxic in structure and lacks anticholinergic and antihistaminergic activity (Moret, Chavaron et al. 1985; Mochizuki, Tajiya et al. 2002).

The goals of the present study were to (1) confirm the unique reuptake ratio of milnacipran with expressed human 5-HT (hu SERT) and NE (hu NET) transporters, and (2) determine the site of action of MIL at the NMDA receptor. DUL was used as a comparator drug.

Methods

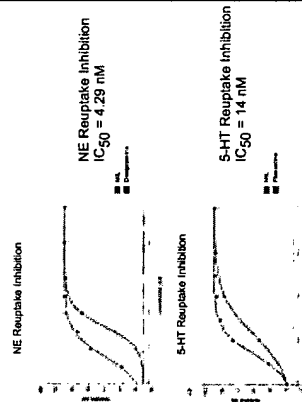
- Drugs**
- Milnacipran was obtained from Parke-Davis (Parsippany, NJ).
 - Duloxetine was synthesized by Cypress Bioscience (Cypress, CA).
- Assays**
- All assays were performed by Cypress Bioscience (Cypress, CA).
- NET Binding**
- NET binding was performed by Gull et al. (1995).
 - Binding curves were generated from triplicate binding data obtained at 5 concentrations (10 nM, 30 nM, 100 nM, 300 nM, 1000 nM).
 - IC₅₀ values were calculated from the binding data.
- SERT Binding**
- SERT binding was performed by Gull et al. (1995).
 - Binding curves were generated from triplicate binding data obtained at 5 concentrations (10 nM, 30 nM, 100 nM, 300 nM, 1000 nM).
 - IC₅₀ values were calculated from the binding data.
- NE Reuptake Inhibition**
- NE reuptake inhibition was performed by Gull et al. (1995).
 - Binding curves were generated from triplicate binding data obtained at 5 concentrations (10 nM, 30 nM, 100 nM, 300 nM, 1000 nM).
 - IC₅₀ values were calculated from the binding data.
- 5-HT Reuptake Inhibition**
- 5-HT reuptake inhibition was performed by Gull et al. (1995).
 - Binding curves were generated from triplicate binding data obtained at 5 concentrations (10 nM, 30 nM, 100 nM, 300 nM, 1000 nM).
 - IC₅₀ values were calculated from the binding data.
- NMDA Receptor Binding**
- NMDA receptor binding was performed by Gull et al. (1995).
 - Binding curves were generated from triplicate binding data obtained at 5 concentrations (10 nM, 30 nM, 100 nM, 300 nM, 1000 nM).
 - IC₅₀ values were calculated from the binding data.

MIL Displays Higher Affinity for huSERT than huNET



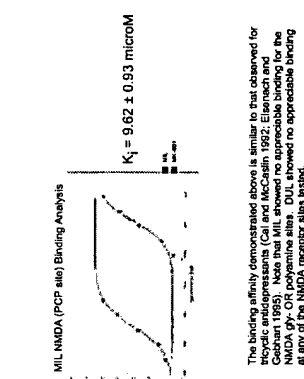
MIL's NE:5-HT binding affinity ratio of 1.9 is almost identical to that of duloxetine (1.9:4; Bymaster, Dreshfield-Armad et al. 2001).

MIL Preferentially Blocks the Reuptake of NE vs. 5-HT



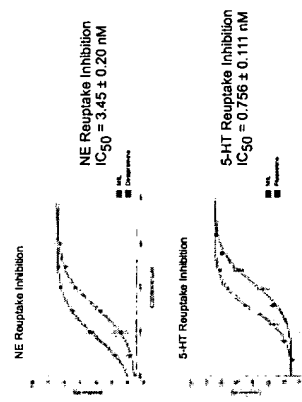
MIL's ratio of reuptake inhibition of 3.3:1 (NE:5-HT) is reversed compared to that of its binding affinity (1.9, above).

MIL is an NMDA (PCP site) Antagonist, Unlike DUL



The binding affinity demonstrated above is similar to that observed for the binding of MIL to the NMDA receptor (Gendreau et al. 2002). MIL showed no appreciable binding for the NMDA 5-HT polyanionic sites. DUL showed no appreciable binding at any of the NMDA receptor sites tested.

DUL Preferentially Blocks the Reuptake of 5-HT vs. NE



DUL's ratio of reuptake inhibition of 1.4:6 (NE:5-HT) is reversed compared to that of MIL, but consistent with its binding affinity (Bymaster, Dreshfield-Armad et al. 2001).

Conclusions

- MIL is an NSRI against human 5-HT and NE transporters, thus extending the previous rodent work.
- MIL's binding affinity ratio for 5-HT and NE is inverted compared to that of its reuptake inhibition ratio.
- We confirm that DUL is an SNRI
- Finally, MIL is a low affinity PCP-site NMDA antagonist, unlike DUL.

The combination of NE>5-HT reuptake inhibition and low-affinity NMDA PCP-site antagonism resembles certain tricyclic antidepressants (TCAs), particularly amitriptyline/nortriptyline. Moreover, this combination of activities may make MIL ideally suited for the treatment of certain chronic pain conditions that are associated with affective disorders, including fibromyalgia, irritable bowel syndrome, and certain subsets of low-back pain (Kranzler, Gendreau et al. 2002; Rao 2002).

References

- Bymaster, F. W., Dreshfield-Armad, S. G., & Kalin, N. H. (2001). The antidepressant profile of duloxetine: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 21(1), 1-10.
- Cai, J., & McCaslin, F. S. (1992). The antidepressant profile of nortriptyline: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 12(1), 1-10.
- Gendreau, S. G., Rao, S. G., & Kalin, N. H. (2002). The antidepressant profile of milnacipran: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 22(1), 1-10.
- Gull, L. F., & Kalin, N. H. (1995). The antidepressant profile of nortriptyline: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 15(1), 1-10.
- Kalin, N. H., & Gull, L. F. (1995). The antidepressant profile of nortriptyline: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 15(1), 1-10.
- Kranzler, J. H., & Gendreau, S. G. (2002). The antidepressant profile of milnacipran: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 22(1), 1-10.
- Rao, S. G. (2002). The antidepressant profile of milnacipran: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 22(1), 1-10.
- Roseboom, T. J., & Kalin, N. H. (1996). The antidepressant profile of venlafaxine: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 16(1), 1-10.
- Shuto, S., Takada, Y., & Takada, Y. (1995). The antidepressant profile of milnacipran: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 15(1), 1-10.
- Tajiya, M., & Mochizuki, S. (1985). The antidepressant profile of milnacipran: A comparison of its reuptake inhibition and NMDA receptor antagonism to that of amitriptyline and nortriptyline. *Journal of Clinical Psychopharmacology*, 5(1), 1-10.

Sponsor Information

Cypress Bioscience
4350 Executive Dr., Suite 325
San Diego, CA 92121
(619) 482-2323
Contact Information
Srinivas G. Rao, M.D., Ph.D.
srinivas@cypressbio.com



**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.